CRPL-F 132

FOR OFFICIAL USE

IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

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CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given in Document No. 626-E referred to above, plus an additional symbol, R: "Scaling of characteristic is influenced or prevented by absorption in the neighborhood of the critical frequency," (May 1955).

a. For all ionospheric characteristics:

Values missing because of A, C, F, L, M, N, Q, R, S, or T are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F2 (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G (and B when applied to the daytime E region only) are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D. C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of the errors are due to:

a. Differences in scaling records when spread echoes are present.

b. Omission of values when foF2 is less than or equal to foF1, leading to erroneously high values of monthly averages or median values.

c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

Ordinarily, a blank space in the fEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.

b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.

c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.

The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

Month	Predicted Sunspot Number										
	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945
December		11	15	33	53	86	108	114	126	85	38
November		10	16	38	52	87	112	115	124	83	36
October		10	17	43	52	90	114	116	119	81	23
September		8	18	46	54	91	115	117	121	79	22
August		8	18	49	57	96	111	123	122	77	20
July	22	8	20	51	60	101	108	125	116	73	
June	18	9	21	52	63	103	108	129	112	67	
May	16	10	22	52	68	102	108	130	109	67	
April	13	10	24	52	74	101	109	133	107	62	
March	14	11	27	52	78	103	111	133	105	51	
February	14	12	29	51	82	103	113	133	90	46	
January	12	14	30	53	85	105	112	130	88	42	

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:
- Brisbane, Australia
- Canberra, Australia
- Hobart, Tasmania
- Townsville, Australia

Australian Department of Supply and Shipping, Bureau of Mineral Resources, Geology and Geophysics:
- Watheroo, Western Australia

Meteorological Service of the Belgian Congo and Ruanda-Urundi:
- Elisabethville, Belgian Congo
- Leopoldville, Belgian Congo

British Department of Scientific and Industrial Research, Radio Research Board:
- Falkland Is.
- Ibadan, Nigeria (University College of Ibadan)
- Inverness, Scotland
- Port Lockroy
- Singapore, British Malaya
- Slough, England

Defence Research Board, Canada:
- Baker Lake, Canada
- Churchill, Canada
- Ottawa, Canada
- Resolute Bay, Canada
- Winnipeg, Canada

Radio Wave Research Laboratories, National Taiwan University, Taipeh, Formosa, China:
- Formosa, China

Danish National Committee of URSI:
- Godhavn, Greenland

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover, Germany:
- Lindau/Harz, Germany

The Royal Netherlands Meteorological Institute:
- De Bilt, Holland

Icelandic Post and Telegraph Administration:
- Reykjavik, Iceland

Indian Council of Scientific and Industrial Research, Radio Research Committee:
- Calcutta, India

Ministry of Postal Services, Radio Research Laboratories, Tokyo, Japan:
- Akita, Japan
- Tokyo (Kokubunji), Japan
- Wakkanai, Japan
- Yamagawa, Japan

Christchurch Geophysical Observatory, New Zealand Department of Scientific and Industrial Research:
- Christchurch, New Zealand
- Rarotonga, Cook Is.

Norwegian Defence Research Establishment, Kjeller per Lillestrom, Norway:
- Oslo, Norway
- Tromso, Norway

Manila Observatory:
Baguio, P. I.

South African Council for Scientific and Industrial Research:
Capetown, Union of South Africa
Johannesburg, Union of South Africa
Nairobi, Kenya (East African Meteorological Department)

Research Institute of National Defence, Stockholm, Sweden:
Upsala, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:
Schwarzenburg, Switzerland

United States Army Signal Corps:
Adak, Alaska
Ft. Monmouth, New Jersey
Okinawa I.
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
Anchorage, Alaska
Fairbanks, Alaska (Geophysical Institute of the University of Alaska)
Guam I.
Huancayo, Peru (Instituto Geofisico de Huancayo)
Maui, Hawaii
Narsarssuak, Greenland
Panama Canal Zone
Point Barrow, Alaska
Puerto Rico, W. I.
San Francisco, California (Stanford University)
Washington, D. C.

HOURLY IONOSPHERIC DATA AT WASHINGTON, D. C.

The data given in tables 73 through 84 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Symbols, Terminology, Conventions." Beginning with September 1949, the data are taken at Ft. Belvoir, Virginia.

IONOSPHERIC STORMINESS AT WASHINGTON, D.C.

Table 85 presents ionosphere character figures for Washington, D. C., during July 1955, as determined by the criteria given in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with Cheltenham, Maryland, geomagnetic K-figures, which are usually covariant with them.

RADIO PROPAGATION QUALITY FIGURES

Tables 86a and 86b give for June 1955 the radio propagation quality figures for the North Atlantic area, the relevant CRPL advance and short-term forecasts, a summary geomagnetic activity index and sundry comparisons, specifically as follows:

(a) radio propagation quality figures, Qa, separately for each 6-hour interval of the Greenwich day, viz., 00-06, 06-12, 12-18, 18-24 hours UT (Universal Time or GCT).

(b) whole-day radio quality indices (beginning October 1952). Each index is a weighted average of the four quarter-day Qa-figures, before rounding off, with half weight given to quality grades 5 and 6. This procedure tends to give whole-day indices suitable for comparison with whole-day advance forecasts which designate whenever possible the days when significant disturbance or unusually quiet conditions will occur.

(c) short-term forecasts, issued by CRPL every six hours (nominally one hour before 00^h, 06^h, 12^h, 18^h UT) and applicable to the period 1 to 13 (especially 1 to 7) hours ahead. Note that new scoring rules have been adopted beginning with October 1952 data.

(d) advance forecasts, issued semiweekly (CRPL-J reports) and applicable 1 to 3 or 4 days ahead, 4 or 5 to 7 days ahead, and 8 to 25 days ahead. These forecasts are scored against the whole-day quality indices.

(e) half-day averages of the geomagnetic K indices measured by the Cheltenham Magnetic Observatory of the U. S. Coast and Geodetic Survey.

(f) illustration of the comparison of short-term forecasts with Qa-figures and also with estimates of radio quality based on CRPL observations only.

(g) illustration of the outcome of advance forecasts (1 to 3 or 4 days ahead) and, for comparison, the outcome of a type of "blind" forecast. For the latter the frequency for each quality grade, as determined from the distribution of quality grades in the four most recent months of the current season, is partitioned among the grades observed in the current month in proportion to the frequencies observed in the current month.

These radio propagation quality figures, Qa, are prepared from radio traffic data reported to CRPL by American Telephone and Telegraph Company, Mackay Radio and Telegraph Company, RCA Communications, Inc., Marconi Company, British Admiralty Signal and Radar Establishment, and the following agencies of the U. S. Government:--Coast Guard, Navy, Army Signal Corps, and U. S. Information Agency. The method of calculation, summarized below, is similar to that described in a 1946 report, IRPL-R31, now out of print. Only reports of radio transmission on North Atlantic paths closely approximating New York-London are included in the estimation of quality.

The original reports are submitted on various scales and for various time intervals. The observations for each 6-hour interval are averaged on the quality scale of the original reports. These 6-hour indices are then adjusted to the 1 to 9 quality-figure scale by a conversion table prepared by comparing the distribution of these indices for at least four months, usually a year, with a master distribution determined from analysis of the reports originally made on the 1 to 9 quality-figure scale. A report whose distribution is the same as the master is thereby converted linearly to the Q-figure scale. The 6-hourly quality figures are (subjectively) weighted means of the reports received for that period. These 6-hourly quality figures replace, beginning January 1953, the half-daily quality figures which formerly appeared in this table. (These forecasts and quality indices are prepared by the North Atlantic Radio Warning Service, the CRPL forecasting center at Ft. Belvoir, Virginia.)

These quality figures are, in effect, a consensus of reported radio propagation conditions. The reasons for low quality are not necessarily known and may not be limited to ionospheric storminess. For instance, low quality may result from improper frequency usage for the path and time of day. Although, wherever it is reported, frequency usage is included in the rating of reports, it must often be an assumption that the reports refer to optimum working frequencies. It is more difficult to eliminate from the indices conditions of low quality because of multipath, interference, etc. These considerations should be taken into account in interpreting research correlations between the Q-figures and solar, auroral, geomagnetic or similar indices.

Note: A tabulation of forecasts for the North Pacific area and comparisons with observed radio propagation conditions will appear in a later issue.

OBSERVATIONS OF THE SOLAR CORONA

Tables 87 through 89 give the observations of the solar corona during July 1955, obtained at Climax, Colorado, by the High Altitude Observatory of Harvard University and the University of Colorado. Tables 90 through 92 list the coronal observations obtained at

Sacramento Peak, New Mexico, during July 1955, derived by Harvard College Observatory as a part of its performance of a research contract with the Upper Air Research Observatory, Geophysical Research Directorate, Air Force Cambridge Research Center. The data are listed separately for east and west limbs at 5-degree intervals of position angle north and south of the Solar Equator at the limb. The time of observation is given to the nearest tenth of a day, GCT.

Beginning with January 1, 1955, the Climax, Colorado, coronal measurements are reported in absolute units rather than on the arbitrary relative scale that has been used in the past. Absolute intensities are given in millionths of the intensity in one angstrom of the spectrum of the center of the solar disk at the wavelength of the coronal line. Two conversion tables from arbitrary relative to absolute units were published in CRPL-F127, March 1955. One table gave the green-line conversions to absolute units applicable for all readings made since 1943. The other table gave the red-line conversions applicable for the years 1952 to the present. For earlier years a table is available from the High Altitude Observatory, Boulder, Colorado, showing changes in red-green sensitivity. Absolute yellow-line (λ5694) intensities may be obtained approximately by multiplying the values in the λ5303 table by 0.75. Absolute far red (λ6702) may be obtained approximately by multiplying the values in the λ6374 table by 0.9.

The Sacramento Peak measurements will continue to be on an arbitrary relative scale.

Table 87 gives the intensities of the green (5303A) line of the emission spectrum of the solar corona; table 88 gives similarly the intensities of the first red (6374A) coronal line; and table 89, the intensities of the second red (6702A) coronal line; all observed at Climax in July 1955.

Table 90 gives the intensities of the green (5303A) coronal line; table 91, the intensities of the first red (6374A) coronal line; and table 92, the intensities of the second red (6702A) coronal line; all observed at Sacramento Peak in July 1955.

The following symbols are used in tables 87 through 92; a, observation of low weight for whole limb (if in date column) or for portion of limb indicated; -, corona not visible; and X, no observation for whole limb (if in date column) or for portion of limb indicated.

RELATIVE SUNSPOT NUMBERS

Tables 93 and 94 list, respectively, the daily provisional Zürich relative sunspot number, R_Z, for June and July 1955, as communicated by the Swiss Federal Observatory. Table 95 contains the daily American relative sunspot number, R_A', for June 1955, as compiled by the Solar Division, American Association of Variable Star Observers.

OBSERVATIONS OF SOLAR FLARES

Table 96 gives the preliminary record of solar flares reported to the CRPL. These reports are communicated on a rapid schedule at the sacrifice of detailed accuracy. Definitive and complete records are published later in the Quarterly Bulletin of Solar Activity, I.A.U., in various observatory publications, and elsewhere. The present listing serves to identify and roughly describe the phenomena observed. Details should be sought from the reporting observatory.

Reporting directly to the CRPL are the following observatories: Mt. Wilson, McMath-Hulbert, U. S. Naval, Wendelstein, Kanzel and High Altitude at Sacramento Peak, New Mexico. The remainder report to Meudon (Paris) and the data are taken from the Paris-URSIgram broadcast, monitored fairly regularly by the CRPL. The data on solar flares reported from Sacramento Peak, New Mexico, communicated by the High Altitude Observatory at Boulder, Colorado, are provided by Harvard University as the result of work undertaken on an Air Materiel Command Research and Development Contract administered by the Air Force Cambridge Research Laboratories.

The table lists for each flare the reporting observatory, date, times of beginning and ending of observation, duration (when known), total area (corrected for foreshortening), and heliographic coordinates. For the maximum phase of the flare is given the time, intensity, area relative to the total area, and the importance. The column "SID observed" is to indicate when a sudden ionosphere disturbance, noted elsewhere in these reports, occurred at the time of a flare. Times are in Universal Time (GCT).

INDICES OF GEOMAGNETIC ACTIVITY

Table 97 lists various indices of geomagnetic activity based on data from magnetic observatories widely distributed throughout the world. The indices are: (1) preliminary international character-figures, C; (2) geomagnetic planetary three-hour-range indices, Kp; (3) daily "equivalent amplitude," Ap; (4) magnetically selected quiet and disturbed days.

The C-figure is the arithmetic mean of the subjective classification by all observatories of each day's magnetic activity on a scale of 0 (quiet) to 2 (storm). The magnetically quiet and disturbed days are selected by the international scheme outlined on pages 219-227 in the December 1943 issue of Terrestrial Magnetism and Atmospheric Electricity. The details of the currently used method follow. For each day of a month, its geomagnetic activity is assigned by weighting equally the following three criteria: (1) the sum of the eight Kp's; (2) the greatest Kp; and (3) the sum of the squares of the eight Kp's.

Kp is the mean standardized K-index from 11 observatories between geomagnetic latitudes 47 and 63 degrees. The scale is 0 (very quiet) to 9 (extremely disturbed), expressed in thirds of a unit, e.g., 5- is 4 2/3, 5o is 5 0/3, and 5+ is 5 1/3. This planetary index is designed to measure solar particle-radiation by its magnetic effects, specifically to meet the needs of research workers in the ionospheric field. A complete description of Kp has appeared in Bulletin 12b, "Geomagnetic Indices C and K, 1948," published in Washington, D. C., 1949, by the Association of Terrestrial Magnetism and Electricity, International Union of Geodesy and Geophysics.

Ap indicates magnetic activity on a linear scale rather than the quasi-logarithmic scale of the K-indices. The column headed Ap gives the daily average for the eight values ap per day, where ap is defined as one-half the average gamma range of the most disturbed of the three force components, in the three-hour interval at standard stations. Ap is computed from the 8 indices Kp per day, see IATME Bulletin No. 12h (for 1953), p. VIII f. Values of Ap (like Kp and Cp) have been published for the Polar Year 1932/33 and currently since January 1937.

The Committee on Characterization of Magnetic Disturbance, ATME, IUGG, has kindly supplied this table. The Meteorological Office, De Bilt, Holland, collects the data and compiles C and selected days. The Chairman of the Committee computes the planetary index. Current tables are also published quarterly in the Journal of Geophysical Research along with data on sudden commencements (sc) and solar flare effects (sfe).

SUDDEN IONOSPHERE DISTURBANCES

Tables 98, 99, 100, 101, 102, and 103 list, respectively, the sudden ionosphere disturbances observed at Washington, D. C., for June 13, 1955, and July; in England for July 1955; in Australia for June and July 1955; at Riverhead, New York, for June 1955; at Enköping, Sweden, for June 1955; and at Nederhorst den Berg, Netherlands, for May and June 1955.

ERRATUM

CRPL-F131, p. 85, fig. 131: (M3000)F2 curve at 1630 should read <2.95.

Table 1

Washington, D. C. (38.7°N, 77.1°W) July 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.9					3.9	3.1
01	280	3.6					3.8	3.0
02	270	3.4					3.7	3.05
03	270	2.9					3.7	3.1
04	280	2.5					3.1	3.1
05	260	3.0			---	<1.6	3.1	3.25
06	330	3.8	220	3.3	110	2.0	4.5	3.2
07	350	4.4	210	3.8	110	2.5	4.9	3.1
08	350	4.9	210	4.0	100	(2.9)	5.1	3.15
09	340	5.0	200	4.2	100	(3.1)	5.0	3.1
10	360	5.4	200	4.4	100	3.3	5.2	3.0
11	360	5.2	200	4.4	100	(3.4)	4.9	3.0
12	400	5.2	200	4.5	100	3.3	4.7	2.9
13	370	5.2	190	4.4	100	3.4	4.5	3.0
14	380	5.2	200	4.4	100	3.3	4.6	3.0
15	380	5.2	200	4.3	100	3.2	4.6	3.0
16	350	5.3	210	4.2	100	3.0	4.8	3.0
17	320	5.5	210	3.9	110	2.8	4.3	3.1
18	300	5.6	220	3.5	110	2.3	4.4	3.1
19	260	5.6	240	---	---	<1.6	4.1	3.1
20	240	6.0	---	---			4.3	3.2
21	240	5.6					3.6	3.2
22	250	4.8					4.2	3.1
23	270	4.3					4.2	3.1

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Point Barrow, Alaska (71.3°N, 156.8°W) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	(4.0)	---	---			5.4	(3.1)
01	(280)	(4.1)	240	---			5.2	(3.1)
02	(270)	(4.0)	(240)	---	---	---	5.0	(3.15)
03	(280)	(4.1)	240	(3.1)	---	---	5.6	(3.1)
04	---	(4.1)	(230)	(3.2)	120	2.0	4.4	---
05	(370)	(4.4)	(210)	(3.4)	110	(2.0)	3.8	---
06	(420)	(4.5)	---	(3.6)	---	---	4.3	(2.7)
07	400	(4.6)	240	3.7	---	---	4.4	(2.8)
08	(420)	(4.5)	220	3.8	100	2.6	4.7	(2.8)
09	(480)	(4.3)	220	3.9	100	2.7	4.0	(2.6)
10	520	4.4	220	3.9	100	2.8	3.2	(2.55)
11	500	4.3	200	4.0	100	2.8	3.5	(2.6)
12	440	4.5	200	4.0	100	2.9	3.2	(2.8)
13	460	4.6	220	4.0	100	(2.9)	3.2	2.8
14	(420)	4.7	200	4.0	100	2.8		2.8
15	400	4.7	210	4.0	100	2.8		2.9
16	380	4.7	220	3.9	110	2.8		2.9
17	370	4.7	220	3.8	110	2.7		3.0
18	350	4.7	(230)	(3.7)	100	2.3	<2.4	3.0
19	340	4.6	240	(3.6)	110	2.2	2.8	3.1
20	330	(4.4)	250	(3.4)	110	2.2	3.7	(3.0)
21	300	(4.3)	240	---	120	---	4.0	3.1
22	300	(4.1)	---	---	---	---	4.3	(3.1)
23	(270)	(4.3)					6.6	(3.1)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

Fairbanks, Alaska (64.9°N, 147.8°W) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	4.0					4.6	(3.0)
01	270	4.0					4.7	3.1
02	290	4.0	---	---	---	---	4.5	3.1
03	320	4.2	240	(2.8)	---	---	5.4	3.0
04	350	4.4	220	3.2	---	(2.0)	5.6	2.95
05	360	4.5	220	3.5	---	(2.3)	6.4	3.0
06	380	4.6	220	3.6	100	2.4	6.6	2.9
07	400	4.6	200	3.7	100	2.6	6.6	2.9
08	410	4.6	200	3.9	100	2.7	5.6	2.8
09	440	4.6	200	4.0	100	2.9	6.0	2.7
10	460	4.6	200	4.0	100	2.9	4.4	2.7
11	420	4.7	210	4.1	100	3.0	4.6	2.8
12	410	4.6	200	4.1	100	(3.0)	4.0	2.9
13	430	4.6	200	4.2	100	(3.0)	3.6	2.9
14	400	4.6	200	4.1	100	(2.9)	3.2	2.9
15	410	4.6	200	4.1	100	2.8	<3.1	2.9
16	380	4.7	210	4.0	100	(2.6)	3.0	2.9
17	350	4.7	220	3.9	100	(2.5)	3.2	3.0
18	320	4.7	220	(3.7)	100	2.2	3.2	3.1
19	300	4.7	220	(3.4)	110	2.1	3.7	3.2
20	250	4.6	240	---	120	(1.8)	3.2	3.2
21	250	4.4	---	---	---	---	2.4	3.2
22	250	4.1			---	---	3.4	3.2
23	270	(3.9)					4.6	(3.2)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 4

Narsarssuak, Greenland (61.2°N, 45.4°W) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	(3.3)					4.4	3.05
01	310	3.2					4.7	3.1
02	340	(3.2)					4.5	3.0
03	320	3.3					4.3	3.0
04	(310)	3.8	---	---	---	---	4.8	3.1
05	300	3.9	240	3.5	110	---	4.7	3.2
06	360	4.1	230	3.8	110	2.4	3.8	3.1
07	370	4.3	210	3.9	110	2.6	3.7	3.0
08	390	4.5	210	4.0	110	2.8	3.3	2.9
09	400	4.6	200	4.0	110	2.9	3.1	2.8
10	380	4.7	210	4.1	110	3.0	3.3	3.0
11	400	4.8	210	4.1	110	3.1	3.5	2.85
12	410	4.9	210	4.2	110	3.1		2.9
13	390	4.9	210	4.2	110	3.1		2.9
14	380	4.9	210	4.1	110	3.0		2.9
15	400	4.9	210	4.1	110	2.9		2.9
16	370	4.8	210	4.0	110	2.8	<3.0	3.0
17	370	4.8	230	3.9	110	2.7	4.2	3.0
18	330	4.7	240	3.8	110	2.4	4.2	3.[illegible]
19	310	4.6	260	3.5	110	2.1	4.4	3.1
20	280	4.3	240	3.0	120	1.8	4.0	3.2
21	270	4.0	---	---	---	---	4.8	3.2
22	270	(3.6)					5.2	3.[illegible]
23	300	3.4					5.1	3.1

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

Oslo, Norway (60.0°N, 11.1°E) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.4					2.8	3.0
01	260	4.2					1.8	2.9
02	260	3.8			---	---	2.0	2.9
03	285	3.8	260	---	110	1.3	1.4	2.9
04	295	4.0	250	2.9	120	1.7	1.8	2.95
05	350	4.4	230	3.4	105	2.0	2.3	2.9
06	370	4.6	215	3.6	105	2.3	3.8	2.9
07	360	4.8	210	3.9	100	2.6	4.0	2.9
08	390	4.9	210	4.0	100	2.8	3.9	2.9
09	390	5.2	210	4.2	100	2.9	4.0	2.9
10	360	5.2	210	4.2	100	3.0	3.8	2.95
11	360	5.2	205	4.3	100	3.1	3.8	2.95
12	380	5.2	205	4.4	100	3.2	4.2	2.9
13	390	5.0	210	4.4	100	3.1	4.3	2.9
14	375	5.0	205	4.3	100	3.0	3.7	2.9
15	395	4.9	205	4.2	100	3.0	3.6	2.9
16	360	5.0	205	4.2	100	2.9	3.2	2.95
17	345	5.1	210	4.0	100	2.7	3.6	3.0
18	320	5.0	240	3.8	105	2.4	4.1	3.05
19	300	5.2	240	3.6	110	2.2	4.0	3.1
20	275	5.2	245	---	120	1.8	3.4	3.05
21	250	5.4	250	---	---	---	1.6	3.1
22	250	5.4						3.1
23	250	5.0					3.2	3.0

Time: 15.0°E.
Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 6

Upsala, Sweden (59.8°N, 17.6°E) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	4.6					2.3	3.0
01	260	4.2					2.4	3.0
02	280	3.8			---	E	3.0	3.0
03	300	4.0	260	2.6	---	E	3.1	3.0
04	320	4.3	235	3.1	130	1.7	3.0	3.0
05	340	4.6	220	3.5	110	2.2	3.3	3.1
06	365	4.7	220	3.8	110	2.4	3.5	3.0
07	390	4.8	210	4.0	105	2.7	4.0	3.0
08	370	5.0	210	4.1	105	2.8	4.4	3.0
09	380	5.1	205	4.2	105	3.0	4.4	3.0
10	360	5.4	200	4.3	105	3.1	4.2	2.95
11	360	5.3	205	4.3	105	3.2	4.2	3.1
12	360	5.4	200	4.4	105	3.2	4.2	3.1
13	360	5.2	200	4.4	105	3.2	4.2	3.1
14	370	5.1	200	4.3	105	3.1	4.0	3.1
15	360	5.0	200	4.2	105	3.0	3.8	3.05
16	355	5.1	210	4.1	105	2.8	3.5	3.1
17	340	5.1	220	4.0	110	2.6	3.7	3.1
18	310	5.1	230	3.7	110	2.4	4.2	3.1
19	290	5.2	240	3.4	115	2.0	4.2	3.2
20	270	5.3	245	(2.8)	135	1.6	3.5	3.1
21	245	5.5	---	---	---	E	2.4	3.2
22	245	5.4			---	---		3.1
23	250	5.0					2.1	3.1

Time: 15.0°E.
Sweep: 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 7

Adak, Alaska (51.9°N, 176.6°W) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	4.6					2.6	3.05
01	270	4.2					2.0	3.0
02	270	3.8					2.1	3.0
03	300	3.5					2.4	2.9
04	380	3.8	260	2.7	130	1.5	1.8	2.8
05	400	4.4	240	3.3	110	2.0	2.5	2.7
06	400	4.8	230	3.6	110	2.4	3.8	2.8
07	380	5.2	230	3.9	110	2.7	5.0	2.8
08	370	5.4	220	4.0	110	2.9	5.6	2.9
09	380	5.3	210	4.1	110	3.0	5.1	2.9
10	400	5.0	200	4.2	110	3.2	7.0	2.8
11	410	4.9	210	4.3	110	3.2	5.1	2.85
12	400	5.0	200	4.3	110	3.2	4.9	2.9
13	480	4.8	200	4.3	110	3.2	4.6	2.6
14	450	4.8	200	4.3	110	3.0	4.1	2.7
15	400	4.9	210	4.1	110	2.9	4.7	2.9
16	380	4.8	220	4.0	110	2.7	3.2	2.9
17	340	5.0	230	3.9	110	2.6	3.6	3.0
18	320	5.0	240	3.6	110	2.2	4.3	3.0
19	280	5.3	240	---	120	1.7	4.2	3.1
20	260	5.8					3.8	3.1
21	260	5.8					3.8	3.1
22	250	5.6					3.2	3.1
23	250	5.0					2.4	3.1

Time: 180.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 8

Ft. Monmouth, New Jersey (40.0°N, 74.0°W) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	4.1					3.4	3.1
01	250	3.7					2.4	3.0
02	250	3.2					2.5	3.1
03	250	2.7					2.4	3.1
04	250	2.6					2.6	3.2
05	240	3.4	220	3.0	<130	(1.8)	2.7	3.3
06	<370	4.0	220	3.5	110	(2.3)	3.7	3.05
07	340	4.5	210	3.8	110	(2.6)	4.2	3.0
08	350	4.9	210	4.1	100	(3.0)	4.1	3.1
09	340	5.2	200	4.2	100	(3.2)	4.6	3.0
10	340	5.4	190	4.3	100	(3.3)	4.2	3.2
11	360	5.4	190	4.4	100	(3.3)	3.7	3.1
12	370	5.3	190	4.4	100	(3.4)	4.5	3.0
13	370	5.3	210	4.4	100	(3.2)	4.6	3.0
14	350	5.4	200	4.3	100	3.4	3.7	3.1
15	340	5.5	200	4.3	100	3.3	3.6	3.0
16	330	5.6	210	4.1	110	3.0	3.7	3.1
17	310	5.6	200	3.8	110	2.7	4.2	3.1
18	280	5.8	220	(3.5)	110	(2.3)	4.0	3.2
19	240	6.0	230	---	---	---	3.6	3.2
20	230	6.0					4.2	3.2
21	240	5.5					4.2	3.1
22	<260	4.8					4.2	3.1
23	260	4.4					3.1	3.1

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 9

White Sands, New Mexico (32.3°N, 106.5°W) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.9					3.6	3.0
01	270	3.8					2.8	3.0
02	<280	3.6					3.2	3.0
03	260	3.6					3.3	3.1
04	260	3.3					3.4	3.1
05	250	3.6	---	---	---	---	2.9	3.2
06	300	4.3	220	3.4	110	2.0	3.4	3.2
07	330	5.2	210	3.9	100	2.5	4.0	3.1
08	320	5.4	200	4.1	100	2.9	4.5	3.1
09	330	5.8	190	4.3	100	3.0	5.4	3.1
10	370	5.6	190	4.4	100	3.3	6.9	2.9
11	380	5.8	190	4.5	100	3.4	5.6	2.9
12	360	6.0	200	4.5	100	3.4	6.8	2.9
13	340	6.3	200	4.5	100	3.4	5.6	2.9
14	340	6.2	200	4.4	100	3.3	5.4	2.9
15	330	6.3	210	4.3	100	(3.1)	5.5	3.0
16	320	6.0	210	4.2	100	3.0	5.0	3.0
17	300	6.2	210	3.9	100	2.6	4.3	3.1
18	280	6.3	220	(3.4	110	(2.2)	3.8	3.1
19	240	6.6	---	---			3.6	3.2
20	220	6.6					3.4	3.3
21	220	5.4					3.5	3.2
22	240	4.4					4.4	3.2
23	<270	4.2					4.3	3.0

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 10

Okinawa I. (26.3°N, 127.8°E) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	(6.2)					4.4	(2.9)
01	260	(6.1)					4.0	(3.15)
02	260	(5.6)					4.5	(3.3)
03	250	(4.7)					3.7	3.2
04	250	(4.0)					3.6	3.2
05	270	(4.2)	---	---	---	---	3.8	(3.2)
06	250	5.2	240	---	120	2.0	4.4	3.4
07	280	5.9	230	---	110	(2.6)	5.5	3.4
08	310	6.2	220	4.3	110	(3.0)	6.6	3.2
09	300	6.3	220	4.4	110	(3.3)	7.2	3.2
10	<400	6.2	(210)	4.6	110	(3.3)	8.3	2.8
11	400	6.3	(220)	4.6	110	(3.4)	7.6	2.7
12	380	6.9	200	4.5	110	(3.4)	6.9	2.8
13	370	7.4	220	4.6	110	(3.4)	5.6	2.8
14	350	8.1	(220)	(4.4)	110	(3.3)	6.6	2.8
15	340	8.8	220	4.4	110	(3.2)	5.8	2.9
16	320	>9.0	230	4.2	110	(3.0)	5.2	2.9
17	300	>9.0	240	4.0	110	(2.6)	6.6	3.0
18	260	>8.8	240	---	---	---	5.2	3.25
19	250	(7.4)					4.8	(3.2)
20	260	(6.3)					4.5	(3.0)
21	280	(5.9)					3.9	2.9
22	300	(6.0)					3.8	2.9
23	300	6.0					4.2	2.9

Time: 127.5°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 11

Formosa, China (25.0°N, 121.5°E) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.8					4.3	2.9
01	260	6.4					3.3	3.2
02	240	5.4					2.9	3.35
03	240	(5.8)					3.2	(3.15)
04	240	(4.6)					3.2	(2.95)
05	280	4.3					3.0	2.9
06	240	5.8					3.8	3.1
07	260	6.3	220	4.0	110	2.7	5.5	3.5
08	280	6.5	230	4.2	100	3.1	6.6	3.2
09	310	6.4	220	4.5	100	3.2	6.7	3.0
10	340	6.8	200	4.6	100	3.3	7.6	2.8
11	360	7.8	---	---	100	3.3	7.1	2.8
12	360	8.2	---	---	---	---	7.4	2.8
13	340	9.1	220	4.6	100	3.3	5.6	2.9
14	340	9.5	270	4.6	100	3.2	5.6	2.9
15	320	10.2	240	4.4	100	3.2	4.8	3.0
16	280	10.6	220	4.3	---	---	5.4	3.1
17	250	10.5	---	---	---	---	6.6	3.1
18	240	9.2	---	---			5.8	3.35
19	240	8.2					5.2	3.25
20	260	7.2					3.6	3.0
21	280	6.4					3.0	3.1
22	280	6.4					3.2	2.85
23	290	6.6					3.2	2.9

Time: 120.0°E.
Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 12

Maui, Hawaii (20.8°N, 156.5°W) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	330	6.0					3.7	2.6
01	310	5.6					2.8	2.8
02	300	5.4					3.4	2.8
03	300	5.0					3.4	2.8
04	310	4.6					2.7	2.75
05	330	4.2					2.6	2.7
06	310	4.3	290	---	---	---	3.2	2.8
07	350	5.5	260	3.8	130	2.3	4.4	2.7
08	380	5.8	240	4.2	130	2.8	5.6	2.65
09	480	6.4	230	4.4	120	3.1	5.7	2.3
10	490	7.1	220	4.6	120	3.3	6.5	2.3
11	480	7.8	220	4.6	120	3.4	6.7	2.3
12	460	8.6	230	4.6	120	3.5	6.2	2.4
13	430	9.2	230	4.5	120	3.5	6.0	2.5
14	410	9.8	240	4.5	120	3.4	4.5	2.6
15	390	10.0	240	4.4	120	3.3	4.4	2.6
16	380	10.1	250	4.2	130	3.1	4.6	2.7
17	350	10.0	260	4.2	130	2.7	3.8	2.8
18	320	10.1	270	3.7	140	2.2	3.2	2.8
19	300	9.6	300	---			3.6	2.9
20	280	8.5					3.6	2.8
21	290	7.3					3.2	2.7
22	300	6.8					3.2	2.7
23	320	6.3					3.5	2.6

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 13

Puerto Rico, W. I. (18.5°N, 67.2°W) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	5.6					<2.4	3.0
01	260	5.9					<2.5	3.1
02	240	5.4					<1.8	3.2
03	250	4.0					2.0	3.1
04	270	3.6					<1.8	3.0
05	270	3.4					<2.0	3.0
06	260	3.8	250	---	---	---	2.5	3.1
07	280	5.0	230	3.7	110	2.2	3.4	3.3
08	320	5.9	220	4.1	110	2.7	4.0	3.1
09	330	6.0	210	4.3	110	3.0	4.2	3.05
10	340	6.5	200	4.4	110	3.2	4.4	2.9
11	360	7.3	200	4.5	110	3.4	4.0	2.8
12	350	8.3	210	4.5	110	3.5	4.0	2.8
13	340	9.2	210	4.5	110	3.5	4.0	2.9
14	310	9.2	210	4.5	110	3.4	3.8	2.9
15	310	9.1	220	4.4	110	3.3	4.0	3.0
16	310	8.8	230	4.2	110	3.1	4.4	3.0
17	280	9.0	220	4.0	110	2.7	4.3	3.1
18	260	8.4	230	---	120	2.2	4.0	3.1
19	240	7.9					3.4	3.2
20	240	6.8					3.8	3.1
21	260	6.5					3.2	3.0
22	270	6.0					3.2	2.9
23	280	5.6					2.3	3.0

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 14

Guam I. (13.6°N, 144.9°E) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	340	4.0					2.5	2.8
01	330	3.7					2.0	2.8
02	320	3.4					<2.0	2.9
03	320	3.4					1.5	3.0
04	280	3.4					1.5	3.1
05	260	3.2					1.7	3.15
06	250	4.4	---	---			2.1	3.4
07	250	5.9	220	---	110	2.2	3.0	3.3
08	290	6.5	210	---	110	(2.8)	3.8	3.1
09	340	6.8	200	4.4	110	(3.0)	4.6	2.9
10	380	6.8	200	4.5	110	(3.2)	4.4	2.65
11	420	7.3	200	4.5	110	(3.3)	4.4	2.5
12	420	7.6	210	4.5	110	3.4	4.8	2.5
13	400	8.2	220	4.5	110	(3.4)	4.1	2.6
14	400	8.4	210	4.4	110	(3.4)	4.6	2.65
15	390	8.6	210	4.4	110	3.2	5.0	2.7
16	370	9.0	220	4.2	110	3.0	5.0	2.7
17	340	9.2	230	---	110	2.6	4.7	2.8
18	300	9.3	---	---			4.8	2.9
19	260	9.0					4.8	3.0
20	260	8.0					4.5	2.95
21	280	6.6					3.3	2.9
22	310	5.2					2.8	2.8
23	340	4.3					2.8	2.75

Time: 150.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds

Table 15

Panama Canal Zone (9.4°N, 79.9°W) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	6.0					1.7	3.2
01	240	5.2					1.8	3.1
02	260	4.9					2.2	3.1
03	260	4.4					2.0	3.1
04	250	4.2					1.7	3.1
05	250	4.0					2.7	3.15
06	250	4.1	---	---			3.6	3.3
07	240	5.0	220	3.9	120	2.2	3.8	3.35
08	310	5.5	210	4.2	110	(2.7)	3.7	3.1
09	380	6.0	200	4.4	110	3.1	3.6	2.7
10	400	7.2	200	4.4	110	3.3	4.4	2.6
11	400	7.8	200	4.5	110	3.4	4.3	2.7
12	390	8.6	200	4.5	110	3.5	4.4	2.7
13	380	9.4	200	4.5	110	3.5	4.6	2.8
14	360	10.0	200	4.4	110	3.4	4.8	2.8
15	340	10.4	220	4.3	110	3.2	4.6	2.9
16	320	10.6	210	4.2	110	3.0	4.4	3.0
17	290	10.4	220	4.0	110	2.5	4.2	3.1
18	260	9.8	230	(3.4)	---	---	3.5	3.2
19	230	9.1					3.2	3.2
20	240	7.7					2.7	3.0
21	260	6.7					2.2	3.0
22	270	6.4					1.8	3.0
23	260	6.4					<1.7	3.1

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 16

Resolute Bay, Canada (74.7°N, 94.9°W) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.2	230	---	110	1.5	2.3	3.2
01	250	4.2	230	---	110	1.5		3.2
02	260	4.2	230	2.9	110	1.7		3.2
03	270	3.9	230	3.0	105	1.8		3.15
04	300	4.0	230	3.1	105	2.0		3.1
05	310	4.0	220	3.2	105	2.1		3.05
06	330	4.1	220	3.3	105	2.2	3.4	3.1
07	370	4.2	220	3.5	100	2.4	3.8	3.0
08	380	4.3	220	3.5	100	2.5	3.3	2.9
09	380	4.3	220	3.6	100	2.7	4.0	2.9
10	400	4.3	210	3.7	100	2.7		2.8
11	380	4.5	210	3.8	100	2.8	4.0	2.9
12	400	4.5	210	3.8	100	2.8	3.3	2.7
13	420	4.5	210	3.8	100	2.8		2.9
14	400	4.4	210	3.7	100	2.8		2.8
15	380	4.4	210	3.7	100	2.7		2.7
16	390	4.3	210	3.6	100	2.6		2.9
17	350	4.6	210	3.6	100	2.5		3.0
18	350	4.5	210	3.4	100	2.3		2.9
19	330	4.2	220	3.3	105	2.1		3.0
20	300	4.4	220	3.1	105	2.0		3.1
21	280	4.4	230	3.1	105	1.9		3.1
22	270	4.2	220	2.9	105	1.7		3.1
23	260	4.3	230	---	110	1.6		3.1

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 17

Point Barrow, Alaska (71.3°N, 156.8°W) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(280)	(3.7)			---	---	4.8	(3.0)
01	(280)	(3.7)	---	---	---	---	6.2	(3.0)
02	280	(3.0)	---	---	---	---	4.4	(3.0)
03	(290)	(3.8)	---	---	---	---	4.3	(3.1)
04	(300)	(3.8)	250	(3.0)	120	1.9	3.6	(3.0)
05	(380)	(4.0)	(240)	(3.2)	120	(2.0)	3.8	(3.1)
06	(390)	(4.2)	(240)	(3.3)	---	---	3.9	(2.8)
07	400	(4.3)	250	(3.6)	110	(2.2)	4.3	(2.9)
08	400	(4.2)	(260)	3.7	110	2.5	4.2	(2.9)
09	400	4.3	230	3.7	110	2.6	4.0	2.9
10	450	(4.3)	220	3.8	110	2.6	3.5	(2.75)
11	430	4.4	220	3.8	110	2.8	3.2	2.7
12	420	4.4	220	3.9	110	2.8	3.2	2.8
13	400	4.6	210	3.9	110	2.8	2.9	2.9
14	420	4.6	220	3.9	110	(2.7)		2.8
15	390	4.6	220	3.8	110	2.6		2.95
16	360	4.6	220	3.8	110	2.5		3.0
17	360	4.6	230	3.6	110	2.4		3.0
18	360	4.4	240	(3.5)	120	2.2	2.9	3.0
19	310	4.6	240	(3.3)	120	2.0	3.8	3.05
20	(290)	(4.2)	(240)	3.1	120	1.8	3.6	(3.1)
21	280	(4.0)	---	---	120	1.5	4.0	(3.1)
22	300	(3.9)			---	E	4.2	(3.1)
23	280	(3.8)			---	---	3.9	(3.2)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 18

Tromso, Norway (69.7°N, 19.0°E) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(260)	(4.6)					4.4	(3.0)
01	---	(4.5)	---	---	---	---	4.6	(3.0)
02	(280)	(4.4)	---	---	---	---	4.0	(2.9)
03	(305)	4.2	240	2.9	---	1.8	3.6	3.05
04	(310)	4.4	230	3.4	105	2.0	3.2	3.1
05	(305)	4.6	225	3.5	105	2.2	3.2	(3.1)
06	330	4.9	230	3.8	100	2.4	3.0	3.0
07	345	4.8	220	3.8	100	2.6	2.9	3.1
08	360	5.1	210	3.9	105	2.7	3.0	3.0
09	350	5.2	210	4.0	100	2.8	3.1	3.05
10	355	5.1	205	4.0	105	2.8	3.0	3.1
11	350	5.0	210	4.0	105	2.8	3.2	3.1
12	345	5.0	205	4.1	105	2.9	3.2	3.1
13	330	5.0	205	4.1	110	2.8		3.1
14	340	4.8	205	4.0	105	2.8	3.1	3.1
15	345	4.8	205	4.0	100	2.7		3.1
16	310	4.8	220	3.8	105	2.6	2.9	3.1
17	(300)	5.1	215	3.0	105	2.4	>3.1	3.2
18	(290)	5.1	225	3.6	105	2.3	3.2	3.2
19	(270)	4.9	235	---	105	2.1	3.1	(3.2)
20	(260)	4.7	245	---	110	1.8	3.4	3.2
21	270	4.5	250	---	---	---	3.6	3.05
22	275	4.4	---	---	---	---	3.6	3.1
23	(270)	(4.6)					3.2	(3.05)

Time: 15.0°E.
Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 19

Baker Lake, Canada (64.3°N, 96.0°W) — May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	4.1			120	1.0	4.6	3.1
01	240	3.8			110	1.0	4.7	3.1
02	240	3.7	---	---	110	1.2	4.3	3.1
03	250	3.3	---	---	105	1.5	4.2	3.1
04	260	3.5	230	2.5	105	1.8	4.1	3.1
05	290	3.8	230	3.1	105	2.0	4.1	3.1
06	340	4.0	220	3.4	105	2.3	4.3	3.0
07	370	4.2	200	3.7	100	2.7	5.2	3.0
08	400	4.3	200	3.9	100	2.9	5.8	2.8
09	420	4.4	210	3.9	100	3.1	6.0	2.7
10	420	4.6	220	4.0	100	3.3	6.0	2.75
11	400	4.7	230	4.1	100	3.3	5.2	2.9
12	400	4.8	220	4.1	100	3.2	5.2	2.85
13	400	4.7	210	4.1	100	3.2	4.6	2.9
14	380	5.0	210	4.0	100	3.0	3.8	2.9
15	370	5.1	210	4.0	100	3.0	5.0	2.9
16	350	5.1	220	4.0	100	3.0	5.0	2.9
17	350	5.1	220	4.0	100	2.9	4.2	2.9
18	310	5.0	220	3.7	100	2.7	4.9	3.1
19	280	4.8	220	3.4	105	2.3	5.0	3.1
20	270	4.6	240	3.1	105	2.0	7.0	3.1
21	250	4.5	250	---	105	1.8	6.8	3.1
22	240	4.2	---	---	105	1.5	6.0	3.1
23	250	4.3			110	1.3	6.0	3.1

Time: 90.0°W.
Sweep: 0.6 Mc to 10.0 Mc in 16 seconds.

Table 20

Reykjavik, Iceland (64.1°N, 21.8°W) — May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(260)	---					3.8	---
01	290	(3.3)					4.0	(3.0)
02	280	(3.4)					4.0	(2.95)
03	280	3.2					3.7	3.0
04	300	3.6	---	---	120	1.4.	<3.1	3.1
05	280	3.7	240	---	110	---		3.1
06	360	4.0	230	3.6	110	---		3.05
07	370	4.2	220	3.7	100	2.4		3.1
08	330	4.4	220	3.8	100	2.6		3.0
09	370	4.6	210	3.9	100	(2.7)		3.0
10	350	4.9	200	4.0	110	---		3.1
11	360	4.9	200	4.0	100	---		3.1
12	350	4.9	200	4.1	110	---		3.1
13	360	4.9	210	4.1	100	---		3.0
14	380	4.9	200	4.1	100	---		2.9
15	370	4.9	210	4.0	100	---		3.0
16	350	4.9	220	4.0	110	(2.7)		3.0
17	320	4.8	220	3.9	110	2.6		3.1
18	320	4.7	220	3.8	110	2.4	<2.9	3.1
19	300	4.8	240	---	110	---	3.6	3.1
20	280	4.4	240	---	110	2.6	3.6	3.1
21	300	(4.1)			---	---	3.3	3.1
22	280	(4.0)					3.6	(3.0)
23	300	(4.0)					4.2	---

Time: 15.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 21

Anchorage, Alaska (61.2°N, 149.9°W) — May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.0					2.3	2.9
01	290	3.0					1.7	2.85
02	290	2.7					1.3	2.8
03	300	3.0	---	---	---	E	1.4	2.9
04	330	3.4	260	2.9	130	1.5	2.0	2.8
05	380	3.9	240	3.2	120	1.8	2.2	2.7
06	400	4.3	230	3.4	110	2.1	<2.4	2.7
07	400	4.4	220	3.6	110	2.3	2.8	2.7
08	470	4.4	220	3.8	110	2.6	2.8	2.6
09	440	4.5	210	3.8	110	2.7	3.0	2.7
10	420	4.6	210	4.0	110	(2.8)	3.0	2.8
11	400	4.7	210	4.0	110	(2.9)	3.1	2.8
12	420	4.7	210	4.0	110	(3.0)	<3.1	2.8
13	400	4.7	210	4.0	110	(2.9)	3.0	2.85
14	400	4.7	210	4.0	110	2.8		2.9
15	380	4.6	220	4.0	110	(2.7)	3.0	2.9
16	380	4.6	220	3.8	110	(2.6)		2.8
17	360	4.5	230	3.7	110	2.3		2.9
18	320	4.5	240	(3.4)	110	2.1	2.3	3.0
19	290	4.6	250	---	120	1.8	2.6	3.05
20	260	4.6	250	---	130	1.4	2.7	3.1
21	250	4.6					2.4	3.1
22	250	4.5					1.7	3.0
23	250	4.2					2.0	3.0

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 22

Churchill, Canada (58.8°N, 94.2°W) — May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.8					7.0	---
01	270	3.8					6.0	---
02	300	3.5			---	---	5.0	---
03	300	3.1			---	---	4.8	---
04	290	3.3			---	---	4.7	(3.05)
05	300	3.7	260	3.4	120	2.2	5.0	(3.2)
06	370	4.0	230	3.7	110	2.4	5.1	(2.9)
07	420	4.2	230	3.8	105	2.8	5.6	2.8
08	420	4.3	220	3.9	105	2.9	6.0	2.85
09	420	4.4	210	4.0	110	3.0	5.8	2.9
10	400	4.7	210	4.0	110	3.0	5.0	2.85
11	400	4.8	200	4.0	110	3.0	5.3	2.9
12	380	4.9	200	4.0	105	3.1	5.0	2.9
13	400	4.9	200	4.1	105	3.1	5.0	2.9
14	400	4.9	200	4.0	110	3.1	5.0	2.9
15	380	5.0	210	4.0	110	3.0	5.0	3.0
16	350	5.0	220	4.0	110	3.0	5.0	3.0
17	330	5.1	230	3.9	105	2.8	4.5	3.0
18	320	4.8	240	3.7	110	2.7	4.2	3.0
19	300	4.6	250	3.2	110	2.6	4.4	3.1
20	300	4.5			120	2.6	4.5	3.15
21	300	4.0			---	---	7.5	(3.0)
22	280	4.0			---	---	9.0	(3.0)
23	270	4.0					9.0	---

Time: 90.0°W.
Sweep: 0.6 Mc to 10.0 Mc in 16 seconds.

Table 23

De Bilt, Holland (52.1°N, 5.2°E) — May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	4.1						2.9
01	250	3.7						2.9
02	260	3.6						2.9
03	260	3.4						2.95
04	250	3.5	---	---				3.0
05	250	4.1	225	3.4	105	2.0	2.2	3.1
06	340	4.5	225	3.8	100	2.3	2.8	3.1
07	300	5.0	210	4.0	100	2.7	3.2	3.15
08	315	5.2	200	4.1	100	2.9	3.3	3.2
09	300	5.5	200	4.3	100	3.1	3.6	3.2
10	325	5.5	200	4.4	100	3.1	4.0	3.2
11	310	5.6	200	4.4	100	3.2	3.8	3.1
12	320	5.5	200	4.5	100	3.2	3.8	3.1
13	350	5.6	200	4.4	100	3.2	3.6	3.05
14	320	5.5	200	4.4	100	3.1	3.4	3.1
15	320	5.4	200	4.2	100	3.0	3.6	3.1
16	300	5.7	225	4.0	100	2.8	3.5	3.1
17	290	5.7	225	3.8	100	2.5	3.2	3.1
18	270	5.8	225	3.2	105	2.1	3.1	3.1
19	250	6.2	---	---			2.2	3.1
20	225	6.3						3.1
21	225	6.2						3.0
22	250	5.3						3.0
23	250	4.7						2.9

Time: 0.0°.
Sweep: 0.8 Mc to 20.0 Mc in 20 seconds.

Table 24

Lindau/Harz, Germany (51.6°N, 10.1°E) — May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.4					2.4	3.0
01	260	3.9					2.2	3.0
02	260	3.6					2.2	3.0
03	260	3.4					2.4	3.0
04	250	3.3	---	---	---	E	2.5	3.1
05	260	3.8	240	---	<120	1.6	2.7	3.2
06	300	4.4	225	3.5	105	2.0	3.1	3.2
07	330	4.6	215	3.8	100	2.4	3.8	3.1
08	325	5.0	215	4.0	100	2.6	4.1	3.15
09	310	5.3	200	4.2	100	2.8	4.4	3.2
10	325	5.4	200	4.2	100	3.0	4.3	3.2
11	310	5.6	195	4.3	100	3.2	4.6	3:1
12	320	5.5	200	4.4	100	3.1	4.6	3.1
13	330	5.4	200	4.4	100	3.1	4.2	3.1
14	330	5.4	200	4.2	100	3.1	4.4	3.1
15	320	5.6	210	4.2	100	3.0	3.9	3.1
16	310	5.4	215	4.1	100	2.8	3.8	3.1
17	300	5.6	220	3.9	100	2.6	4.1	3.1
18	280	5.8	230	3.6	100	2.2	4.0	3.1
19	260	6.0	235	---	115	1.8	3.6	3.2
20	240	6.2			---	E	3.0	3.2
21	240	6.2					3.0	3.1
22	230	5.8					3.0	3.1
23	240	5.0					2.4	3.1

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 8 minutes.

Table 25

Winnipeg, Canada (49.9°N, 97.4°W) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.8					3.2	3.0
01	300	2.6					3.0	3.0
02	320	2.4					3.4	2.9
03	300	2.4					3.2	3.0
04	300	2.4					3.2	3.0
05	260	3.0			---	---	2.1	3.1
06	240	3.6	220	3.8	120	2.1		3.1
07	400	4.0	220	3.7	120	2.6		3.0
08	420	4.4	210	3.9	110	2.8	3.2	2.9
09	410	4.6	200	4.0	110	3.0		2.9
10	420	4.7	210	4.1	110	3.1	3.2	2.85
11	390	4.9	200	4.2	110	3.2	3.3	3.0
12	380	5.1	200	4.2	110	3.2	3.4	3.0
13	380	5.0	200	4.2	110	3.2	3.4	3.0
14	390	5.0	210	4.3	110	3.2	3.2	2.9
15	360	5.0	210	4.1	110	3.1	3.1	3.0
16	360	5.0	220	4.0	110	3.0		3.0
17	340	5.0	220	3.9	110	2.8		3.0
18	310	5.0	230	3.8	115	2.5		3.1
19	280	5.0	240	3.1	130	2.1		3.2
20	250	5.0			---	---	2.2	3.1
21	250	5.0					3.3	3.1
22	250	4.0						3.2
23	280	3.2					3.0	3.0

Time: 90.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 16 seconds.

Table 26

Schwarzenburg, Switzerland (46.8°N, 7.3°E) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	4.1						3.4
01	260	3.9						3.4
02	250	3.8						3.4
03	260	3.6						3.4
04	250	3.4						3.4
05	250	3.6			---	---		3.4
06	200	4.2	---	---	100	2.0		3.65
07	240	5.0	200	3.7	100	2.3		3.7
08	300	5.2	200	3.9	100	2.7		3.5
09	300	5.6	200	4.1	100	2.9		3.55
10	300	5.8	200	4.2	100	3.0	4.3	3.6
11	300	5.8	200	4.4	100	3.2		3.5
12	300	5.6	200	4.4	100	3.2		3.5
13	300	5.6	200	4.4	100	3.2		3.3
14	300	5.6	200	4.3	100	3.2		3.4
15	300	5.8	200	4.3	100	3.0		3.4
16	300	5.7	200	4.2	100	3.0		3.4
17	300	6.0	200	4.0	100	2.6		3.4
18	(260)	(5.7)	---	---	100	2.4		(3.5)
19	240	5.6			100	2.0		3.6
20	230	5.7						3.55
21	200	5.4						3.75
22	220	4.4						3.8
23	220	4.2						3.75

Time: 15.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 27

Ottawa, Canada (45.4°N, 75.9°W) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.5					2.2	3.0
01	300	2.3						3.0
02	310	2.1						2.9
03	320	2.0					1.6	(3.0)
04	300	2.1						3.0
05	250	3.0	---	---	130	1.8		3.3
06	270	3.9	230	3.4	110	2.2		3.2
07	360	4.3	220	3.8	110	2.6		3.1
08	360	4.8	220	4.0	105	2.9		3.0
09	380	4.9	210	4.1	105	3.2	3.3	3.0
10	390	5.0	200	4.2	105	3.3	3.5	3.0
11	380	5.1	210	4.2	105	3.4	3.5	3.0
12	400	5.1	200	4.3	105	3.5	3.5	2.95
13	400	5.1	210	4.2	105	3.4	3.5	3.0
14	390	5.3	220	4.2	105	3.4	3.4	2.9
15	360	5.2	220	4.2	105	3.2	3.2	3.0
16	350	5.2	220	4.0	110	3.0		3.0
17	320	5.4	230	3.8	110	2.6		3.0
18	290	5.5	240	3.3	115	2.1		3.0
19	260	5.8	250	---	140	1.9	2.5	3.1
20	240	5.7					2.0	3.1
21	240	5.0						3.1
22	250	4.0						3.0
23	270	3.0					2.4	3.0

Time: 75.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 15 seconds.

Table 28

Ft. Monmouth, New Jersey (40.0°N, 74.0°W) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.1					<1.8	3.1
01	260	2.8					<1.6	3.0
02	<260	2.6					<1.6	3.1
03	260	2.4					<1.7	3.1
04	---	2.3					2.3	3.2
05	250	3.2	230	---	---	--	<2.0	3.4
06	270	4.2	220	3.5	110	(2.2)	3.2	3.4
07	320	4.5	210	3.8	110	2.5	3.2	3.2
08	310	5.0	200	4.0	110	(2.8)	4.0	3.3
09	320	5.0	200	4.2	110	(3.0)	3.7	3.25
10	330	5.3	190	4.3	110	(3.2)	4.5	3.2
11	370	5.4	190	4.4	110	3.2	4.4	3.0
12	370	5.4	200	4.4	110	(3.3)	3.9	3.0
13	350	5.6	200	4.3	110	3.3	3.6	3.0
14	340	5.6	210	4.3	100	3.2	3.6	3.05
15	320	5.5	210	4.2	110	3.0	3.7	3.1
16	310	5.7	210	4.0	110	2.8	3.5	3.1
17	290	5.7	210	3.7	110	(2.5)	2.9	3.2
18	270	5.9	230	(3.2)	110	(2.1)	3.8	3.2
19	240	6.3					<2.2	3.3
20	220	5.9					<2.0	3.3
21	230	5.2					<1.8	3.3
22	240	4.3					<1.8	3.2
23	250	3.7					<1.9	3.1

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 29

San Francisco, California (37.4°N, 122.2°W) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(280)	(3.7)					(3.2)	(2.9)
01	(290)	(3.7)					(3.0)	(2.9)
02	(280)	(3.6)					(2.6)	(2.9)
03	(260)	(3.3)					(2.3)	(3.0)
04	(270)	(3.2)					(2.0)	(3.0)
05	(260)	(3.3)	(260)	---	---	---	<1.7	3.15
06	280	(4.2)	(220)	(3.5)	(120)	(2.2)	<2.6	(3.1)
07	330	5.0	(220)	(3.8)	---	---	3.7	3.1
08	320	5.3	(210)	(4.1)	---	---	(4.4)	3.1
09	340	5.8	(200)	(4.2)	---	---	4.6	3.0
10	340	5.7	(210)	(4.4)	---	---	(4.8)	3.0
11	350	5.9	(200)	(4.4)	---	---	(4.7)	3.0
12	360	6.3	(200)	(4.4)	---	---	4.9	3.0
13	350	6.1	(200)	(4.4)	---	---	4.9	3.0
14	340	6.2	(210)	(4.3)	---	---	4.7	3.0
15	340	5.8	(220)	(4.3)	---	---	(4.5)	3.0
16	330	5.7	(220)	(4.2)	---	---	4.1	3.1
17	310	5.6	(220)	(3.8)	---	---	3.9	3.1
18	270	5.7	(230)	---	---	---	3.4	3.2
19	240	6.0	---	---			<3.1	3.2
20	(230)	(6.0)					<3.1	(3.2)
21	(220)	(4.9)					(3.2)	(3.2)
22	(250)	(4.2)					<3.0	(3.0)
23	(260)	(3.7)					(3.4)	(3.0)

Time: 120.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 30

Leopoldville, Belgian Congo (4.4°S, 15.2°E) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M2000)F2
00	225	3.8					2.1	2.5
01	220	4.0					2.0	2.55
02	230	3.0					2.2	2.5
03	240	2.6					2.7	2.6
04	250	1.9					3.0	2.45
05	250	3.6	---	---			2.7	2.65
06	250	6.0	230	---	120	2.3	3.0	2.7
07	270	6.8	215	---	110	2.8	3.4	2.6
08	290	7.6	210	4.4	110	3.1	4.0	2.5
09	295	8.4	205	4.5	105	3.3	3.6	2.5
10	290	9.0	200	4.5	105	3.4		2.4
11	300	9.2	205	4.5	105	3.4	3.1	2.3
12	300	10.3	210	4.5	105	3.4	3.6	2.3
13	290	11.1	215	4.4	105	3.2	4.0	2.4
14	265	10.3	220	4.2	110	3.1	3.6	2.5
15	265	9.3	225	---	110	2.6	3.6	2.4
16	245	8.7	240	---	120	2.1	3.6	2.5
17	220	8.5					3.3	2.6
18	220	7.8					3.0	2.75
19	210	6.5					3.0	2.8
20	220	4.2					2.9	2.6
21	250	3.2					3.1	2.2
22	270	3.9					2.8	2.3
23	240	4.6					2.5	2.65

Time: 0.0°.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 31

Elisabethville, Belgian Congo (11.6°S, 27.5°E) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M2000)F2
00	260	2.6						2.4
01	250	2.5						2.6
02	250	2.2						2.5
03	260	2.1					2.8	2.5
04	250	2.6						2.4
05	230	5.4	<230	---	125	1.8	2.5	2.8
06	250	6.1	220	---	115	2.6	2.8	2.7
07	270	6.8	215	4.1	110	3.0	3.8	2.6
08	270	7.0	210	4.2	110	3.1	3.5	2.6
09	290	6.8	230	4.4	110	3.2	3.2	2.5
10	290	7.6	250	4.3	110	3.3	3.7	2.5
11	285	7.3	230	4.3	110	3.2	3.8	2.4
12	280	7.1	230	4.2	110	3.1	3.6	2.5
13	280	6.6	240	4.0	110	3.0	3.7	2.5
14	270	6.3	240	---	115	2.7	4.0	2.45
15	250	6.5	240	---	120	2.1	3.3	2.6
16	225	6.1					3.0	2.7
17	220	4.8					3.0	2.8
18	220	3.2					2.6	2.8
19	240	2.5					2.8	2.5
20	270	2.6						2.3
21	260	2.6						2.4
22	260	2.6						2.45
23	270	2.5						2.4

Time: 0.0°.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 32

Huancayo, Peru (12.0°S, 75.3°W) May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	4.7						3.4
01	230	4.3						3.4
02	230	4.0						3.35
03	240	3.6						3.3
04	250	3.2						3.3
05	250	2.9						3.3
06	260	3.1			---	E		3.2
07	230	5.7	230	---	110	2.1	7.2	3.2
08	(290)	7.1	210	---	110	2.7	9.2	3.1
09	310	7.7	200	4.2	110	---	10.8	2.8
10	340	7.4	200	4.3	110	---	11.4	2.6
11	360	6.8	200	4.4	100	---	11.2	2.6
12	370	6.7	190	4.4	100	---	11.2	2.6
13	360	6.8	190	4.3	110	---	11.3	2.6
14	340	6.9	180	4.3	110	---	11.2	2.6
15	340	7.0	180	4.2	110	---	10.3	2.7
16	---	7.2	200	---	110	---	9.6	2.7
17	240	7.1	240	---	110	2.0	5.8	2.7
18	260	7.2					<1.4	2.9
19	260	6.7					<1.5	2.9
20	250	6.4					<1.5	3.0
21	240	6.5						3.2
22	220	6.4						3.4
23	220	5.3						3.4

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 33

Point Barrow, Alaska (71.3°N, 156.8°W) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(300)	(3.1)					6.3	(3.1)
01	(280)	(2.8)					6.8	(3.0)
02	(310)	(3.0)					5.6	---
03	270	(3.1)					4.3	(3.0)
04	280	(3.2)			---	---	3.9	(3.1)
05	(300)	(3.4)			---	---	4.0	---
06	(350)	(3.5)	---	---	---	---	4.0	(3.0)
07	(450)	3.4	---	3.3	---	---	4.3	(2.7)
08	(460)	3.6	250	3.4	110	---	3.9	2.8
09	540	3.8	(240)	3.5	110	(2.4)	4.5	(2.65)
10	(540)	(3.9)	230	3.5	110	(2.4)	3.6	2.55
11	550	(3.9)	(220)	3.6	110	2.5	3.6	2.5
12	470	(4.0)	220	3.6	110	2.6	2.8	2.7
13	460	4.2	240	3.7	110	2.6		2.7
14	420	(4.3)	220	3.6	110	(2.5)	2.9	2.8
15	400	4.2	240	3.6	110	2.5		2.8
16	(390)	4.1	250	(3.5)	110	(2.3)	2.5	3.0
17	(340)	4.0	250	(3.4)	110	2.2	2.4	3.0
18	(310)	(4.0)	250	(3.3)	110	(2.0)	2.6	(3.0)
19	(300)	(3.6)	250	---	110	1.7	2.6	(3.0)
20	(280)	(3.4)	---	---	<130	1.2	3.7	(3.1)
21	(300)	(3.2)			---	---	4.3	(3.2)
22	(280)	(3.2)			---	---	4.7	(3.0)
23	---	(3.0)					6.6	---

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 34

Anchorage, Alaska (61.2°N, 149.9°W) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.1					1.7	2.7
01	310	(1.8)					1.2	(2.75)
02	340	1.8					1.8	2.75
03	<350	2.0					2.5	2.7
04	310	2.1	---	---			1.7	2.8
05	470	2.8	250	2.6	120	1.5		2.85
06	630	3.3	240	3.1	120	1.8		2.6
07	600	3.6	220	3.3	120	2.1		2.5
08	560	3.8	220	3.5	110	2.4		2.4
09	520	3.9	220	3.7	110	2.5		2.5
10	530	4.0	220	3.8	110	2.7		2.5
11	500	4.2	210	3.8	110	2.7		2.4
12	460	4.3	210	3.9	110	2.7		2.7
13	430	4.4	220	3.9	110	2.8		2.7
14	390	4.5	230	3.9	110	2.6		2.8
15	360	4.4	220	3.7	110	(2.6)		3.0
16	330	4.4	230	3.6	120	2.4		3.1
17	300	4.4	230	3.4	120	2.1		3.2
18	270	4.4	240	---	120	1.8		3.2
19	260	3.9	250	---	140	1.4		3.2
20	260	3.6					1.9	3.0
21	270	(3.2)					1.9	(3.0)
22	260	(3.0)					1.5	(3.05)
23	260	(2.4)					2.5	3.0

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 35

Lindau/Harz, Germany (51.6°N, 10.1°E) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.0					1.6	3.0
01	280	2.8					1.9	3.0
02	270	2.7					2.0	3.0
03	270	2.6					2.0	3.0
04	260	2.6					2.0	3.0
05	250	2.8	---	---	---	E	2.3	3.1
06	250	3.4	230	---	120	1.5	2.5	3.4
07	290	4.0	225	3.5	110	2.0	2.7	3.3
08	340	4.4	220	3.7	100	2.4	3.0	3.1
09	340	4.8	215	3.9	100	2.6	3.2	3.2
10	300	5.1	205	4.0	100	2.8	3.4	3.2
11	315	5.3	205	4.2	100	3.0	3.4	3.2
12	310	5.2	200	4.2	100	3.0	3.6	3.2
13	320	5.4	205	4.2	100	3.0	3.7	3.2
14	320	5.2	210	4.1	100	3.0	3.5	3.2
15	300	5.4	215	4.0	100	2.8		3.2
16	290	5.4	220	3.9	100	2.6	2.7	3.2
17	275	5.3	225	3.7	100	2.4	2.7	3.3
18	260	5.4	230	---	110	2.0	2.5	3.25
19	240	5.7	230	---	---	E	2.4	3.3
20	230	5.4					2.0	3.2
21	230	4.8					1.9	3.2
22	240	3.7						3.2
23	260	3.2						3.05

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 8 minutes.

Table 36

Wakkanai, Japan (45.4°N, 141.7°E) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	4.3						
01	290	4.2						
02	270	4.0						
03	250	3.8					2.0	
04	250	3.6						
05	250	4.0					2.3	
06	240	4.5						
07	270	5.0						
08	300	5.3						
09	310	5.8						
10	310	6.4						
11	300	6.2						
12	310	6.5						
13	310	6.4						
14	300	6.4						
15	290	6.0						
16	280	6.0						
17	260	5.7						
18	260	5.8					2.9	
19	250	6.0					2.8	
20	260	5.6						
21	260	5.3						
22	260	4.9						
23	290	4.4						

Time: 135.0°E.
Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 37

Akita, Japan (39.7°N, 140.1°E) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	4.0					2.1	
01	300	4.0					2.1	
02	290	3.8					2.3	
03	250	3.8					2.1	
04	260	3.3					2.1	
05	270	3.6					2.4	
06	250	4.8						
07	280	5.5						
08	300	5.9						
09	320	6.2					3.8	
10	310	6.5					4.0	
11	320	7.0					4.3	
12	330	7.2					4.2	
13	320	7.0					4.1	
14	310	6.9					3.5	
15	300	6.6					3.4	
16	300	6.6					3.4	
17	290	6.2					3.2	
18	270	6.2					3.0	
19	260	6.6					2.8	
20	250	5.9					2.7	
21	270	4.8					2.2	
22	300	4.5					2.2	
23	310	4.3					2.0	

Time: 135.0°E.
Sweep: 0.85 Mc to 22.0 Mc in 2 minutes.

Table 38

Tokyo, Japan (35.7°N, 139.5°E) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	4.0					2.5	2.9
01	280	4.0					2.0	3.0
02	250	3.9					2.4	3.0
03	230	3.6					2.3	3.2
04	250	3.1					2.2	3.1
05	250	3.4			---	---	1.8	3.1
06	230	5.0	240	---	130	1.9	2.9	3.5
07	250	5.6	240	3.8	110	2.5	3.1	3.4
08	270	6.2	230	4.1	110	2.8	>3.8	3.3
09	280	6.6	230	4.3	110	3.0	4.2	3.3
10	290	6.6	220	4.4	110	3.1	4.4	3.1
11	300	7.1	230	4.5	110	3.1	4.3	3.1
12	290	8.0	210	4.5	110	3.2	3.6	3.1
13	290	8.0	230	4.5	110	3.2	3.4	3.1
14	280	7.9	220	4.4	110	3.1	3.1	3.2
15	280	7.5	230	4.2	110	2.9	3.4	3.2
16	270	7.2	230	4.0	110	2.7	3.2	3.3
17	260	6.6	240	3.5	120	2.2	3.0	3.3
18	250	7.0	250	---	130	1.5	3.0	3.2
19	230	7.0					2.8	3.3
20	220	5.7					2.9	3.3
21	250	4.4					3.0	2.9
22	300	4.0					2.8	2.8
23	300	4.2					2.8	2.9

Time: 135.0°E.
Sweep: 1.0 Mc to 17.2 Mc in 2 minutes.

Table 39

Yamagawa, Japan (31.2°N, 130.6°E) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.9					2.3	
01	300	4.0					2.7	
02	260	4.0					2.3	
03	240	3.8					2.4	
04	250	3.0					2.3	
05	300	2.9					2.1	
06	250	4.2					2.4	
07	240	5.9					3.4	
08	250	6.2					4.0	
09	280	6.2					4.7	
10	300	6.6					5.4	
11	320	7.5					5.8	
12	310	8.7					4.8	
13	300	9.0					4.8	
14	290	9.4					4.6	
15	290	9.0					4.3	
16	290	8.8						
17	280	8.5					3.8	
18	250	8.5					3.2	
19	240	8.8					3.1	
20	230	7.1					2.4	
21	230	4.9					2.3	
22	310	3.7					2.3	
23	320	3.9					2.3	

Time: 135.0°E.
Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 40

Baguio, P. I. (16.4°N, 120.6°E) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	7.2					2.9	3.1
01	230	7.2					2.0	3.3
02	200	5.7					1.9	3.5
03	210	3.8					2.4	3.3
04	240	3.1					2.8	3.3
05	240	3.0					3.1	3.4
06	230	4.6					4.0	3.5
07	230	6.2			110	2.2	4.2	3.5
08	(280)	6.8	220	---	110	2.7	5.4	3.2
09	300	7.8	210	---	110	3.0	7.0	3.0
10	330	8.8	200	4.3	100	3.2	7.0	2.7
11	340	9.4	200	4.4	100	3.3	6.9	2.5
12	350	10.0	190	(4.4)	100	3.4	7.0	2.5
13	340	10.0	190	4.4	100	3.3	4.6	2.6
14	320	10.0	200	---	100	3.2	4.4	2.7
15	300	10.5	200	---	100	3.0	4.2	2.9
16	290	11.1	220	---	110	2.7	3.5	3.0
17	250	11.4	220	---	110	2.2	4.0	3.3
18	240	11.3					3.4	3.3
19	230	10.3					2.3	3.1
20	240	9.0					2.7	3.0
21	250	8.7					2.2	3.1
22	270	8.2					2.3	3.0
23	280	7.8					2.1	3.0

Time: 120.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 41

Huancayo, Peru (12.0°S, 75.3°W) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	6.2					4.4	3.4
01	210	6.0						3.4
02	210	5.3						3.4
03	230	4.8						3.4
04	250	3.6						3.3
05	240	2.7						3.5
06	250	3.5			---	E		3.25
07	(260)	6.4	220	---	110	2.1	6.2	3.4
08	(280)	7.8	210	---	110	2.6	9.4	3.1
09	300	8.0	200	4.2	110	---	11.2	2.75
10	330	7.5	200	4.4	110	---	11.4	2.7
11	340	7.0	190	4.4	110	---	11.4	2.6
12	350	7.2	190	4.4	100	---	11.6	2.6
13	340	7.4	190	4.4	110	---	11.5	2.7
14	310	8.0	190	4.2	110	---	11.3	2.8
15	(290)	8.3	190	---	110	---	10.8	2.8
16	(260)	8.5	190	---	110	---	9.8	2.7
17	230	8.6	230	---	110	2.2	5.8	2.75
18	260	8.2			---	---		2.8
19	280	7.6						2.8
20	270	8.0					3.1	2.9
21	240	8.0					4.4	3.1
22	220	7.8					5.7	3.3
23	210	7.0					4.2	3.4

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 42

Johannesburg, Union of S. Africa (26.2°S, 28.1°E) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.1					2.4	3.1
01	240	3.2					2.9	3.1
02	240	3.0					2.7	3.1
03	240	3.2					2.2	3.2
04	220	2.8					2.0	3.2
05	240	2.6					1.9	3.1
06	240	2.8					1.7	3.1
07	220	5.1			130	1.9		3.5
08	240	6.1	230	3.7	110	2.5		3.4
09	260	6.8	220	4.1	110	2.8	3.6	3.3
10	270	7.5	210	4.3	110	3.1	3.8	3.3
11	260	7.7	200	4.4	110	3.2	4.0	3.3
12	270	7.2	200	4.4	110	3.2	3.8	3.2
13	290	7.2	190	4.4	110	3.2	3.9	3.1
14	280	8.0	200	4.3	110	3.1	4.0	3.1
15	270	8.2	210	4.2	110	3.0	3.8	3.2
16	250	7.9	220	3.7	110	2.6	3.7	3.3
17	230	7.2	230	2.8	120	2.1	3.1	3.4
18	220	6.4					2.4	3.4
19	210	4.3					1.9	3.4
20	<230	3.2					2.0	3.25
21	240	3.4					1.7	3.2
22	240	3.3					2.2	3.2
23	240	3.2					2.3	3.2

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 43

Watheroo, W. Australia (30.3°S, 115.9°E) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.3					2.7	3.1
01	250	3.5					3.4	3.1
02	250	3.3					2.4	3.1
03	250	3.3					2.4	3.2
04	240	3.5					2.1	3.3
05	230	3.2					1.6	3.2
06	240	3.0					1.9	3.2
07	240	4.5	---	---		1.7		3.5
08	250	5.8	230	3.5		2.3	2.6	3.55
09	250	6.4	220	4.0		2.7	3.1	3.4
10	260	6.3	210	4.2		2.9	3.3	3.5
11	270	6.1	200	4.4		3.0	3.6	3.4
12	290	6.5	200	4.4		3.1	3.6	3.2
13	280	6.8	210	4.4		3.1	3.7	3.3
14	280	6.9	230	4.4		3.0	3.7	3.3
15	270	7.0	230	4.0		3.0	3.7	3.3
16	250	7.0	240	3.7		2.6	3.6	3.5
17	240	6.4	---	---		2.2	3.6	3.6
18	220	5.4				---	2.6	3.5
19	210	3.8					1.8	3.3
20	250	3.0					1.8	3.1
21	250	3.2						3.1
22	250	3.2						3.05
23	250	3.2					2.6	3.1

Time: 120.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 44

Capetown, Union of S. Africa (34.2°S, 18.3°E) April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<260	3.0						3.0
01	250	3.0						3.1
02	250	3.0					1.8	3.05
03	250	3.2						3.1
04	240	3.1						3.2
05	230	3.0						3.3
06	240	2.8						3.2
07	230	3.5						3.2
08	230	5.2	240	---	130	2.0		3.45
09	250	6.1	230	3.6	120	2.5		3.4
10	260	7.0	230	4.1	110	2.8	3.2	3.3
11	270	7.2	220	4.3	110	3.0	3.8	3.3
12	280	7.2	200	4.4	110	3.1	3.7	3.2
13	290	7.6	200	4.4	110	3.1	3.6	3.1
14	280	8.2	210	4.4	110	3.1	3.3	3.05
15	270	8.2	230	4.2	110	3.0	3.4	3.2
16	260	8.0	230	3.9	110	2.8	3.4	3.2
17	240	7.5	230	3.4	120	2.4	3.0	3.4
18	230	6.4	---	---	110	---	2.4	3.4
19	210	4.6					2.0	3.4
20	220	3.0					2.1	3.25
21	240	3.0					1.9	3.15
22	240	3.0						3.2
23	250	3.0						3.1

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 45

Rarotonga I. (21.3°S, 159.8°W) February 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	6.2					2.4	3.0
01	240	5.9					2.4	3.1
02	250	4.8					3.0	3.1
03	260	4.4					2.6	3.0
04	300	3.8					2.4	2.9
05	300	4.0					2.6	2.9
06	290	3.6			---	---	2.7	3.0
07	250	5.2	250	---	---	2.1	3.2	3.1
08	310	6.5	240	4.2	110	2.6	4.2	3.1
09	300	0.4	230	4.4	105	3.0	4.4	3.2
10	300	9.1	200	4.5	105	3.2	4.7	3.15
11	300	9.4	200	4.5	105	3.4	4.6	3.1
12	300	9.6	200	4.6	105	3.4	4.6	3.1
13	300	9.6	200	4.6	---	3.5	4.8	3.0
14	300	9.5	200	4.6	105	3.4	4.8	3.0
15	300	8.9	200	4.5	105	3.2	4.6	3.0
16	300	7.6	210	4.3	105	3.1	4.4	3.05
17	310	7.0	240	4.1	110	2.7	4.5	3.0
18	290	7.2	250	3.6	120	2.2	4.1	2.9
19	270	7.8					3.9	3.0
20	260	7.8					3.3	3.0
21	270	6.9					3.4	2.95
22	280	6.6					3.0	2.9
23	280	6.8					2.8	3.0

Time: 157.5°W.
Sweep: 1.5 Mc to 20.0 Mc in 5 minutes, manual operation.

Table 46

Christchurch, New Zealand (43.6°S, 172.8°E) February 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.1					3.1	3.0
01	270	3.8					3.0	3.0
02	260	3.4					2.2	3.0
03	270	3.2					2.5	3.0
04	270	2.8					2.4	3.05
05	270	2.8				---		3.05
06	250	3.9	240	---		1.8		3.25
07	280	4.5	230	3.7		2.3		3.4
08	290	5.1	220	4.0		2.7		3.4
09	310	5.5	220	4.2		3.0		3.2
10	320	5.7	220	4.3		3.2	4.7	3.1
11	320	6.0	200	4.4		3.2	4.7	3.2
12	290	6.0	210	4.4		3.2		3.3
13	310	6.0	210	4.3		3.2		3.3
14	300	5.9	230	4.3		3.0	4.5	3.2
15	300	5.6	200	4.2		2.9		3.3
16	320	5.4	220	4.1		2.8	4.3	3.2
17	290	5.2	230	3.8		2.5		3.2
18	280	5.2	240	3.3		2.0		3.2
19	260	5.4	---	---		---	3.6	3.1
20	250	5.8					3.0	3.05
21	260	5.4					3.4	3.1
22	250	5.0					4.0	3.1
23	260	4.4					3.3	3.0

Time: 172.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 47*

Inverness, Scotland (57.4°N, 4.2°W) January 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	295	(2.0)						(3.0)
01	300	1.9						2.9
02	295	1.6						2.0
03	305	1.7						2.8
04	295	1.5					2.4	2.0
05	275	1.5					1.9	3.0
06	285	1.5						3.1
07	290	1.5						3.1
08	255	2.2						3.2
09	215	4.2			(155)	1.6	2.6	3.6
10	215	5.0	(225)		125	1.9	2.4	3.7
11	220	5.6	(225)	(3.1)	125	2.0	2.4	3.7
12	220	6.0	215	3.0	125	2.1	2.4	3.8
13	225	5.7	210	2.9	125	2.1	2.4	3.7
14	225	5.5	(220)	(2.8)	125	1.9		3.7
15	215	5.2			125	1.8	2.1	3.6
16	215	4.7			(145)	(1.6)	1.6	3.5
17	220	4.0						3.5
18	245	2.9						3.3
19	275	2.1						3.1
20	290	1.9						3.0
21	290	1.0						3.1
22	300	(1.8)						3.0
23	315	(1.8)						2.7

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.

Table 40*

Slough, England (51.5°N, 0.6°W) January 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.2					2.6	2.95
01	260	3.0					2.6	2.95
02	265	3.0					2.6	2.95
03	265	2.8					2.9	2.9
04	260	2.4					3.0	3.05
05	255	2.3					2.7	3.05
06	255	2.0					2.8	3.15
07	255	2.1					2.6	3.15
08	225	4.0			(135)	1.5	3.0	3.4
09	220	5.4	(230)	(2.8)	125	1.9	3.4	3.65
10	225	5.7	210	3.0	125	2.2	3.7	3.55
11	230	6.2	220	3.3	120	2.4	3.9	3.6
12	230	6.1	215	3.4	125	2.5	4.4	3.6
13	230	5.9	215	3.3	125	2.4	4.4	3.55
14	230	5.7	230	3.2	125	2.3	3.5	3.55
15	225	5.5	(225)	(2.9)	130	2.0	3.5	3.5
16	220	5.1			140	1.7	3.1	3.45
17	225	4.4					2.6	3.35
18	240	3.4					2.4	3.3
19	255	2.7					2.4	3.15
20	265	2.7					2.4	3.05
21	270	2.6					2.6	3.0
22	270	2.9					2.5	3.0
23	275	3.2					2.6	2.95

Time: 0.0°.
Sweep: 0.55 Mc to 16.5 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.

Table 49*

Ibadan, Nigeria (7.4°N, 4.0°E) January 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.1					2.4	3.1
01	270	3.6					1.5	3.1
02	270	4.0					1.7	3.0
03	275	3.0					1.4	3.1
04	255	2.9					2.3	3.3
05	225	2.1						(3.5)
06	255	3.2				(1.4)		3.1
07		6.0	235		(105)	2.2	6.0	3.2
08	310	7.0	210		(100)	2.8	9.2	2.8
09	370	7.2	205	4.3	100	3.2	10.1	2.4
10	395	6.6	200	4.4	100	3.3	11.1	2.5
11	405	6.3	200	4.4	105	3.4	11.4	2.5
12	400	6.6	200	4.4	105	3.4	10.9	2.5
13	380	7.1	195	4.4	105	3.4	10.6	2.5
14	365	7.4	200	4.3	105	3.3	6.6	2.5
15	340	7.6	205	4.1	110	3.0	5.2	2.6
16	(315)	8.0	215		110	2.6	6.7	2.7
17		7.7	240		115	2.0	5.3	2.6
18	270	>7.0			(150)	1.3	2.0	2.5
19	285	6.8						2.6
20	275	7.1					3.7	2.8
21	255	6.1					2.2	3.2
22	240	5.4					2.6	3.2
23	245	4.6					1.8	3.2

Time: 0.0°.
5weep: 0.67 Mc to 25.0 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.

Table 50*

Singapore, British Malaya (1.3°N, 103.8°E) January 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	245	2.6					3.[illegible]	(3.1)
01	265	2.4					2.7	(3.0)
02	275	2.2					3.1	---
03	300	2.0					3.0	(3.0)
04	310	1.9					3.0	---
05	300	1.9					3.1	---
06	270	2.6				(1.3)	3.0	---
07	250	5.4	235		120	2.0	3.2	3.1
08	335	6.4	225		120	2.6	5.6	2.8
09	410	6.8	210	4.2	115	3.0	5.3	2.5
10	445	7.1	205	4.4	110	3.2	5.9	2.3
11	470	7.2	205	4.4	(110)	3.4	5.3	2.1
12	470	7.5	200	4.4	110	3.5	5.5	2.1
13	440	7.6	200	4.4	110	3.4	5.5	2.2
14	400	7.9	205	4.4	110	3.3	5.6	2.4
15	380	8.0	210	4.3	110	3.1	4.5	2.4
16	375	8.0	225	4.1	115	2.8	4.4	2.5
17	300	8.0	240		120	2.3	4.5	2.5
18	260	7.6			150	1.8	3.1	2.6
19	290	7.1					3.0	2.7
20	300	5.9					3.1	2.7
21	275	6.0					3.2	3.0
22	240	5.7					3.0	3.2
23	220	4.4					3.0	(3.4)

Time: 105.0°E.
5weep: 0.67 Mc to 25.0 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.

Table 51

Nairobi, Kenya (1.3°5, 36.8°E) January 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	210	3.4						3.15
01	---	2.9						2.9
02	---	2.8						2.9
03	---	2.6						3.05
04	(240)	2.6						3.1
05	---	2.7					1.6	3.1
06	---	2.4						3.05
07	240	4.6	240	3.0	120	2.0	2.6	3.4
08	280	6.0	220	4.0	110	2.5		3.2
09	330	6.5	200	4.2	110	3.0		3.0
10	420	7.4	200	4.4	110	3.3		2.65
11	410	8.1	200	4.5	110	3.4		2.6
12	390	9.0	200	4.5	110	3.5		2.6
13	380	9.2	200	(4.5)	110	3.5	3.9	2.7
14	350	9.6	190	4.5	110	3.4		2.8
15	340	9.1	200	4.4	110	3.3		2.9
16	350	8.4	200	4.3	110	3.1		2.8
17	350	8.0	220	4.1	110	2.7	3.1	2.8
18	(320)	7.2	250	3.9	---	---	2.9	2.8
19	280	>7.0						2.8
20	300	>6.4						2.9
21	270	>6.4						3.0
22	230	6.8						3.2
23	210	5.0						3.4

Time: 45.0°E.
5weep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 52

Rarotonga I. (21.3°S, 159.8°W) January 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	5.4					3.0	(3.0)
01	240	5.1					3.1	3.4
02	250	3.8					3.0	3.2
03	290	3.0					3.6	2.95
04	290	2.5					3.1	3.0
05	350	2.3					3.3	3.0
06	260	3.4	---	---	---	E	3.2	3.1
07	260	4.8	250	3.7	115	2.3	4.3	3.1
08	320	6.1	240	4.2	110	2.8	4.9	3.1
09	330	7.5	230	4.2	105	3.1	5.3	2.9
10	340	8.8	200	4.4	105	3.3	5.8	2.9
11	340	9.2	200	4.5	105	3.4	6.1	2.9
12	320	10.3	200	4.5	105	3.4	5.6	2.9
13	300	10.5	200	4.5	105	3.5	5.5	3.0
14	300	10.5	200	4.4	105	3.4	5.0	3.1
15	300	9.4	200	4.4	105	3.3	4.9	3.1
16	300	8.2	220	4.2	105	3.1	4.5	3.1
17	290	6.7	230	4.0	110	2.8	4.3	3.1
18	270	5.7	230	3.6	115	2.2	4.2	3.2
19	280	5.6					4.3	2.9
20	300	6.0					4.4	2.8
21	300	5.6					3.9	2.8
22	300	5.7					3.0	2.9
23	280	6.1					3.1	2.[illegible]

Time: 157.5°W.
Sweep: 1.5 Mc to 20.0 Mc in 5 minutes, manual operation.

Table 53

Christchurch, New Zealand (43.6°5, 172.8°E) January 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	4.3					3.4	3.1
01	250	3.8					3.5	3.05
02	260	3.4					>3.8	3.1
03	270	3.1					2.8	3.0
04	260	2.9				---	2.7	3.1
05	250	3.6	250	2.3		1.5		3.3
06	280	4.2	230	3.4		2.1		3.3
07	310	4.6	240	3.8		2.5	4.2	3.25
08	350	4.9	220	4.0		2.8	4.4	3.1
09	330	5.2	220	4.2		3.0	5.0	3.1
10	330	5.5	210	4.3		3.2	4.4	3.1
11	330	5.6	210	4.3		3.3	4.9	3.1
12	320	5.6	200	4.4		3.3	5.6	3.2
13	350	5.5	200	4.4		3.3		3.1
14	330	5.4	220	4.3		3.2	4.4	3.1
15	330	5.4	210	4.2		3.1		3.1
16	330	5.4	220	4.1		2.9		3.1
17	300	5.2	240	3.8		2.6		3.1
18	280	5.5	240	3.5		2.2	3.5	3.2
19	260	5.3	250	2.7		1.7		3.2
20	250	5.2				---	2.4	3.2
21	250	5.1					2.8	3.1
22	260	5.0					2.6	3.0
23	260	4.7					3.3	3.1

Time: 172.5°E.
5weep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 54

Godhavn, Greenland (69.2°N, 53.5°W) December 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(270)	(1.9)					4.0	(3.2)
01	(280)	(2.1)					3.5	(3.05)
02	(270)	(2.5)					5.6	(3.15)
03	<270	(2.6)					3.3	(3.1)
04	260	(2.8)					3.4	(3.2)
05	(250)	(3.0)					4.0	(3.3)
06	(240)	(2.9)					4.2	(3.3)
07	(230)	(3.0)					4.0	---
08	(240)	(3.1)					3.8	---
09	<250	(3.0)					3.8	(3.2)
10	250	(3.4)					3.8	(3.2)
11	250	(3.7)					3.9	(3.3)
12	(240)	(3.7)					4.8	(3.3)
13	(240)	(3.7)					5.8	(3.3)
14	240	(3.8)					5.4	(3.4)
15	230	(3.4)					5.8	(3.3)
16	240	(3.7)					8.2	(3.25)
17	230	(3.4)					5.0	(3.25)
18	240	(3.2)					4.3	(3.2)
19	240	(3.1)					4.4	(3.2)
20	(240)	(3.1)					4.0	(3.2)
21	(240)	(2.9)					4.8	(3.3)
22	(250)	(2.7)					4.6	(3.2)
23	(260)	(2.2)					3.8	(3.1)

Time: 45.0°W.
5weep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 55

Calcutta, India (22.6°N, 88.4°E) December 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(270)	(2.6)						(2.95)
01	(260)	(2.6)						
02	(260)	(2.7)						
03	(210)	(3.0)						(3.4)
04	(210)	(2.1)						
05	(260)	(2.2)						
06	(255)	(1.9)						(3.1)
07	(225)	(4.8)				---		
08	(240)	(6.3)				2.2		
09	(280)	(8.1)				---		(2.85)
10	(270)	(9.6)				3.0		
11	(260)	(10.2)				3.2		
12	240	10.3				3.2		2.85
13	225	10.5				3.1		
14	240	10.2				3.0		
15	225	9.6				2.7		3.05
16	240	9.3				2.5		
17	260	8.5				2.0		
18	220	7.7						(3.1)
19	210	(5.2)						
20	220	(4.7)						
21	225	(4.4)						(3.2)
22	240	(4.1)						
23	255	(3.3)						

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 56*

Ibadan, Nigeria (7.4°N, 4.0°E) December 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	5.0					2.0	3.2
01	255	4.4						3.1
02	255	3.6					1.7	(3.3)
03	255	>3.0					1.8	(3.2)
04	240	2.8					1.6	(3.3)
05	230	(2.4)						---
06	250	>3.8				(1.5)	2.7	(3.1)
07		6.2	225		(115)	2.3	5.4	3.1
08		7.2	210		(115)	2.8	9.8	2.8
09	(345)	7.1	205	(4.3)		3.1	10.2	2.6
10	375	6.5	195	4.4	(115)	3.2	10.4	2.6
11	390	6.3	195	4.5		3.4	10.5	2.7
12	375	6.6	195	4.4		3.4	10.4	2.7
13	365	7.0	195	4.4	110	3.3	9.8	2.6
14	345	7.3	200	4.3	110	3.2	6.8	2.6
15	(310)	7.7	205	(4.1)	115	2.9	6.7	2.7
16		7.5	225		115	2.4	5.4	2.7
17	250	8.2	(235)		125	1.7	4.6	2.8
18	260	8.0					4.1	2.8
19	275	7.3					4.7	2.8
20	270	7.2					2.3	2.9
21	250	>6.6					1.7	3.2
22	240	5.7					1.9	3.1
23	245	>5.6						(3.3)

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.

Table 57

Townsville, Austalia (19.3°S, 146.7°E) December 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	>6.0					4.1	(3.15)
01	240	5.1					3.8	(3.2)
02	250	>4.5					3.7	(3.05)
03	250	(3.8)					3.5	(3.15)
04	260	(3.5)					3.5	(3.15)
05	250	(3.0)			---	E	3.3	(3.15)
06	240	4.3	---	---	---	1.5	4.0	3.3
07	250	5.4	210	---	110	2.4	4.8	3.3
08	320	5.5	210	4.0	100	2.8	5.2	3.1
09	330	6.4	210	4.3	100	3.1	5.8	3.1
10	340	7.0	---	4.3	100	3.3	5.8	3.0
11	330	7.0	200	4.4	100	3.4	6.0	3.0
12	350	7.9	200	4.4	110	3.4	5.7	2.9
13	325	8.5	200	4.4	100	3.5	6.3	3.0
14	300	(8.8)	200	4.3	100	3.4	5.4	(3.05)
15	280	>8.5	200	4.2	100	3.2	4.8	(3.2)
16	270	(8.2)	220	4.0	110	2.9	5.8	(3.2)
17	265	6.7	220	3.8	110	2.6	4.8	3.25
18	250	6.4	---	---	---	E	4.4	3.2
19	265	(5.9)			---	E	4.4	(3.0)
20	280	(5.9)					5.0	(3.0)
21	280	(6.0)					4.3	(3.05)
22	270	(5.9)					4.2	3.0
23	270	(5.8)					3.8	(3.1)

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 58

Brisbane, Australia (27.5°S, 153.0°E) December 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	5.7					4.4	3.2
01	260	5.1					4.5	3.3
02	260	4.7					4.0	3.1
03	250	4.3					4.0	3.2
04	250	3.8					3.0	3.25
05	240	4.0	---	---	---	1.8	3.6	3.4
06	300	5.0	---	3.7	120	2.1	>4.2	3.2
07	(290)	5.8	---	---	110	2.7	6.0	3.3
08	(320)	5.7	---	---	110	3.0	6.4	(3.2)
09	(310)	6.4	---	---	110	3.3	7.1	(3.2)
10	(310)	7.0	---	---	110	3.4	7.9	(3.15)
11	325	6.5	200	4.6	110	(3.5)	6.0	3.1
12	350	6.5	200	4.6	110	3.5	5.3	2.95
13	340	6.9	---	4.5	110	3.5	5.2	3.0
14	320	7.0	---	4.3	110	3.5	5.0	3.1
15	290	7.4	---	4.2	120	3.2	4.7	3.1
16	290	6.8	---	4.0	110	3.0	5.2	3.2
17	(260)	6.7	---	3.8	120	2.4	6.4	3.2
18	(250)	6.0	---	---	---	---	6.3	3.2
19	(250)	5.6					6.8	3.1
20	(270)	5.6					5.8	3.0
21	300	(5.2)					5.0	(2.95)
22	290	5.6					4.0	3.1
23	280	5.8					4.3	3.1

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 59

Canberra, Australia (35.3°S, 149.0°E) December 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(250)	(4.8)					3.6	(3.1)
01	---	(4.7)					3.6	3.15
02	---	(4.1)					3.4	3.2
03	---	(3.8)					2.2	3.1
04	(240)	3.3					2.7	3.05
05	250	3.6			---	---	1.6	3.3
06	250	4.6	---	3.5	110	2.1	3.4	3.2
07	320	5.0	---	4.0	110	2.6	4.8	3.2
08	320	5.5	---	4.1	110	3.0	5.4	3.1
09	330	5.6	---	4.2	110	3.1	6.0	3.1
10	320	6.0	---	4.2	110	3.3	6.0	3.1
11	320	6.0	200	4.2	110	3.3	5.5	3.1
12	340	6.0	200	4.2	110	(3.4)	5.5	3.1
13	340	6.0	210	4.2	110	3.4	5.5	3.1
14	330	6.0	210	4.2	110	3.3	5.1	3.1
15	310	6.0	210	4.1	110	3.2	4.9	3.1
16	300	6.0	230	4.1	120	3.0	4.8	3.2
17	290	5.9	240	3.8	110	2.7	4.6	3.2
18	260	6.0	230	(3.4)	---	2.1	4.6	3.2
19	240	5.6					4.1	3.2
20	---	(5.5)					3.6	3.05
21	---	5.0					3.6	3.0
22	---	(4.9)					3.8	(2.9)
23	---	(4.8)					4.1	(3.1)

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 60

Hobart, Tasmania (42.9°S, 147.3°E) December 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.6						2.9
01	250	4.2						2.9
02	250	3.6						2.9
03	250	3.2						2.9
04	250	3.0						2.9
05	250	3.7			115	1.5	1.7	3.0
06	230	4.5			100	2.1	3.5	3.0
07	290	5.0	220	3.9	100	2.5	3.6	3.0
08	330	5.3	200	4.0	---	---	4.5	2.9
09	320	5.6	200	4.3	---	---	5.5	2.9
10	320	6.0	200	4.4	---	---	5.5	3.0
11	300	6.5	200	4.5	---	---	5.2	3.0
12	320	6.2	200	4.5	---	---	5.0	2.9
13	340	6.0	200	4.5	---	---	4.3	2.9
14	340	5.8	200	4.4	100	3.3	4.0	2.8
15	330	5.8	200	4.3	100	3.1	3.6	2.9
16	320	5.7	200	4.1	100	3.0	4.3	2.9
17	300	5.8	210	3.9	100	2.7	4.0	2.9
18	230	5.7			100	2.2	4.0	3.0
19	250	5.9			---	---	4.0	3.0
20	250	5.7					4.2	3.0
21	250	5.5					3.2	2.9
22	250	5.2						2.85
23	250	5.0						2.8

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 61*

Falkland Is. (51.7°S, 57.8°W) December 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.4					3.1	2.9
01	275	6.2					2.8	3.0
02	270	5.7					2.7	3.1
03	260	5.4						3.1
04	250	5.4	(245)		135	1.7		3.0
05	270	6.0	240	(3.5)	115	2.0	3.1	3.0
06	325	6.2	235	3.9	110	2.4	4.2	2.9
07	335	6.5	235	4.1	110	2.7	4.6	2.9
08	320	6.8	(230)	4.2	110	2.9	5.0	2.9
09	335	6.9	220	4.3	105	3.1	6.0	2.9
10	325	7.5	215	4.4	105	3.2	6.3	2.9
11	315	6.9	210	4.4	105	3.2	5.6	3.0
12	330	6.5	205	4.4	105	3.3	5.4	3.0
13	320	6.1	215	4.4	105	3.2	4.9	3.0
14	330	5.8	215	4.3	105	3.1	5.2	3.1
15	320	5.8	225	4.2	105	3.0	5.3	3.1
16	310	5.9	230	4.1	110	2.8	4.9	3.1
17	290	6.0		3.9	115	2.6	4.9	3.2
18	280	6.5			125	2.3	5.8	3.1
19	275	6.7			(140)	(1.8)	5.4	3.1
20	270	6.9					4.8	3.0
21	280	6.9					4.3	2.9
22	285	6.8					4.5	2.8
23	285	6.7					3.7	2.8

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.

Table 62*

Port Lockroy (64.8°S, 63.5°W) December 1954

Time	h'F2	foF2	b'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	7.7					2.4	
01	265	7.8					2.5	(2.9)
02	270	7.8						2.9
03	270	7.4	(250)	2.8	130	1.7	1.4	2.9
04	280	7.2	245	3.1	120	1.8		2.8
05	285	6.6	235	3.3	110	2.1	3.6	2.9
06	310	6.1	230	3.7	105	2.3	4.0	2.9
07	320	5.7		3.9	100	2.6	5.0	2.9
08	335	5.8		4.0	100	2.7	5.6	2.9
09	335	5.4		4.1	100	2.8	6.4	(3.0)
10	315	5.4		4.1	100	2.8	5.5	(3.0)
11	335	5.3	(215)	4.1	100	2.9	5.8	(3.0)
12	325	5.3		4.2	100	2.9	5.1	
13	325	4.9		4.2	100	2.9	6.0	(3.0)
14	345	5.0		4.2	100	3.0	5.8	(3.0)
15	335	5.0		4.1	100	2.9	5.8	(3.1)
16	330	5.0		4.0	100	2.8	4.8	3.0
17	320	5.4		3.9	100	2.6	5.7	3.0
18	295	5.7		3.8	105	2.4	5.5	3.0
19	295	5.8	(240)	3.5	110	2.1	4.9	3.0
20	285	6.3	(240)	3.1	115	1.8	4.8	(3.0)
21	280	6.9			120	1.6	3.5	(2.9)
22	270	7.2					2.8	
23	270	7.3					3.1	

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.

Table 63

Calcutta, India (22.6°N, 88.4°E) November 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(240)	(3.9)						(3.1)
01	(240)	(3.7)						
02	(240)	(3.6)						
03	(210)	(3.8)						(3.3)
04	(210)	(3.4)						
05	(240)	(3.1)						
06	(240)	(3.5)						(3.05)
07	(240)	(4.9)				2.0		
08	(240)	(7.5)				---	(3.4)	
09	(240)	(8.5)				---	(3.8)	(2.85)
10	(240)	(9.8)				---	(4.2)	
11	(270)	(10.6)				3.3		
12	270	10.8				3.4		2.8
13	270	10.6				3.4		
14	300	10.6				3.2	3.5	
15	300	10.0				3.1		2.8
16	270	9.6				2.6		
17	270	9.4				2.2		
18	(280)	(8.7)						(2.75)
19	(260)	(7.1)						
20	(240)	(6.8)						
21	(240)	(5.6)						(2.85)
22	(225)	(4.8)						
23	(240)	(4.0)						

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 64*

Ibadan, Nigeria (7.4°N, 4.0°E) November 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	6.2					1.6	3.1
01	245	5.5					2.1	3.1
02	250	4.4					3.1	3.3
03	240	3.1					3.1	3.3
04	235	2.8					1.8	3.4
05	245	1.9					2.0	3.3
06	250	5.0			130	1.8	4.4	3.2
07	(275)	6.8	230		110	2.5	6.0	3.1
08	310	7.8	215		110	3.0	6.9	2.6
09	330	7.2	205	4.4	105	3.2	10.7	2.5
10	360	6.8	200	4.4	105	3.4	12.4	2.5
11	365	6.9	200	4.4	105	3.4	12.9	2.6
12	360	7.0	200	4.4	105	3.4	10.2	2.5
13	345	7.4	200	4.4	105	3.4	11.2	2.5
14	330	7.8	195	4.3	105	3.2	10.3	2.5
15	325	8.2	205		105	3.0	9.3	2.6
16		8.6	220		110	2.5	6.6	2.6
17	255	8.4	(250)		125	1.7	4.8	2.6
18	295	8.1					4.2	2.6
19	315	6.9						2.5
20	300	7.2						2.7
21	265	(8.1)						2.9
22	240	7.3						3.1
23	240	6.5					1.4	3.1

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.

Table 65

Townsville, Australia (19.3°S, 146.7°E) November 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	>5.9					3.1	3.1
01	250	(5.0)					3.0	(3.2)
02	250	(4.3)					3.4	3.15
03	250	4.3					3.2	3.1
04	260	4.0					3.3	3.2
05	250	3.7					2.8	3.1
06	240	(5.0)			120	1.8	3.2	(3.45)
07	(240)	5.3	240	---	100	2.3	3.9	3.3
08	290	5.6	---	4.1	100	2.8	4.4	3.15
09	320	6.2	210	4.3	100	3.2	4.5	3.0
10	340	7.2	---	4.4	110	3.3	4.3	3.0
11	320	7.6	---	4.4	120	3.3	4.4	3.0
12	320	8.2	---	4.4	110	3.3	4.4	3.0
13	300	9.0	---	4.4	110	3.4	4.5	3.1
14	300	8.9	---	4.4	110	3.3	4.5	3.1
15	290	8.3	---	4.3	110	3.2	4.9	3.1
16	280	>8.0	230	4.0	110	2.9	4.8	3.1
17	280	7.7	240	3.8	110	2.4	4.5	3.2
18	250	7.2			---	E	4.4	3.2
19	250	6.5					4.3	3.2
20	260	(6.5)					4.1	(3.1)
21	260	(6.4)					3.8	(3.0)
22	280	(6.2)					3.8	(3.0)
23	280	6.0					3.5	(3.0)

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 66

Brisbane, Australia (27.5°S, 153.0°E) November 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	5.4					4.1	3.0
01	240	4.6					4.7	3.3
02	<250	4.3					4.0	3.15
03	260	3.8					3.0	3.1
04	260	3.5					2.9	3.0
05	250	4.0			---	1.7	3.3	3.4
06	250	4.8	240	3.6	120	2.1	3.9	3.4
07	290	5.4	240	4.0	110	2.7	4.2	3.2
08	300	6.0	---	4.2	110	3.1	5.4	3.15
09	320	6.4	---	4.5	110	3.3	5.5	3.0
10	340	6.8	---	---	110	3.4	6.0	3.0
11	330	7.1	---	4.6	110	3.5	5.2	3.0
12	320	7.4	---	4.5	110	3.5	5.3	3.0
13	300	7.3	---	4.5	110	3.4	4.2	3.1
14	300	7.3	240	4.3	110	3.4	4.8	3.1
15	290	7.7	230	4.2	110	3.2	5.0	3.2
16	280	7.0	230	4.0	110	2.8	4.7	3.2
17	270	6.7	250	3.5	120	2.2	4.0	3.2
18	250	6.6			---	---	4.0	3.2
19	250	6.2					4.0	3.0
20	260	5.8					3.2	3.0
21	290	5.4					4.0	2.9
22	300	5.2					3.6	2.9
23	300	5.0					4.0	2.9

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 67

Canberra, Australia (35.3°S, 149.0°E) November 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	4.5					4.0	3.0
01	---	(4.5)					3.8	3.1
02	---	(3.8)					3.6	(3.1)
03	---	(3.4)					3.4	(3.1)
04	---	(2.8)					2.8	2.9
05	260	3.6					1.6	3.2
06	250	4.4	---	---	(110)	(2.1)		3.2
07	300	4.7	250	3.9	110	2.6	3.3	3.2
08	330	5.5	220	4.0	110	2.9	3.8	3.1
09	340	5.6	210	4.2	120	3.1	5.1	3.1
10	340	5.8	---	4.2	110	3.2	5.5	3.1
11	340	6.0	200	4.2	(110)	3.2	5.5	3.0
12	330	6.0	210	4.2	110	3.2	4.2	3.0
13	330	6.1	210	4.2	110	3.2	4.8	3.1
14	320	6.0	230	4.2	(110)	3.2	3.7	3.1
15	330	5.8	230	4.2	110	3.1	3.6	3.1
16	300	6.0	240	4.0	110	2.9	3.0	3.2
17	280	5.9	240	(3.6)	120	2.5	3.6	3.2
18	260	5.6			---	---	3.7	3.2
19	---	5.9					3.8	3.1
20	---	(5.6)					3.5	(3.15)
21	---	5.0					3.7	(3.1)
22	---	4.4					3.7	2.95
23	---	(4.3)					4.1	(2.9)

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 68

Hobart, Tasmania (42.9°S, 147.3°E) November 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.6						2.9
01	250	3.3						2.9
02	250	2.9						3.0
03	250	2.5						3.0
04	250	2.5						3.0
05	250	3.3			120	1.4		3.1
06	230	4.0			100	2.1		3.0
07	220	4.5	---	---	100	2.5		3.0
08	330	5.0	220	4.1	100	2.8	3.2	3.0
09	350	5.2	200	4.2	100	3.0	3.6	2.9
10	320	5.6	200	4.3	100	3.1	3.8	3.0
11	330	5.7	200	4.4	---	---	4.0	2.9
12	330	5.8	200	4.5	---	---	3.6	2.9
13	350	5.8	200	4.4	100	3.3	3.8	2.9
14	330	6.0	200	4.3	---	---	3.6	2.9
15	320	6.0	200	4.2	100	3.0	3.5	2.9
16	300	5.9	200	4.0	100	2.9		2.95
17	230	5.7	---	---	100	2.5		3.0
18	240	5.7			100	2.0	2.5	3.0
19	250	5.8			---	---	2.0	3.0
20	250	5.6					3.2	3.0
21	250	5.0					3.1	3.0
22	260	4.3					2.8	2.9
23	250	4.0						2.9

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 69

Calcutta, India (26.6°N, 88.4°E) October 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(210)	(4.3)						(3.05)
01	(210)	(3.8)						
02	(210)	(4.0)						
03	(225)	(3.6)						(3.05)
04	(230)	(3.2)						
05	(230)	(2.9)						
06	(210)	(4.2)						(3.05)
07	(210)	(5.6)				---		
08	(240)	(8.5)				---	(3.4)	
09	(240)	(9.2)				---	(3.4)	(2.85)
10	(240)	(9.6)				---	(3.6)	
11	(240)	(10.0)				3.4		
12	(240)	(10.5)				3.6		(2.9)
13	(240)	(10.9)				3.6		
14	(240)	(11.0)				3.4		
15	(240)	(11.0)				3.1	(3.6)	(3.05)
16	(210)	(10.7)				---	(3.1)	
17	(210)	(10.1)				---	(3.4)	
18	(210)	(8.6)						(3.3)
19	(210)	(8.4)						
20	(220)	(6.2)						
21	(210)	(4.8)						(3.25)
22	(210)	(4.5)						
23	(210)	(4.4)						

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 70*

Ibadan, Nigeria (7.4°N, 4.0°E) October 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	225	7.0					2.9	3.2
01	225	6.1					4.4	3.1
02	225	5.3					4.2	3.3
03	220	4.2					2.1	3.4
04	225	3.1					2.8	3.4
05	235	1.8					2.0	3.4
06	240	5.3			(125)	1.8	4.1	3.3
07		7.2	225		110	2.5	5.3	3.1
08	(305)	7.9	210	(4.2)	100	3.0	8.9	2.7
09	325	7.8	200	4.4	100	3.3	9.9	2.5
10	330	7.1	200	4.5	105	3.4	10.0	2.6
11	350	7.2	195	4.6	105	3.5	10.1	2.5
12	340	7.8	195	4.6	105	3.5	9.5	2.5
13	320	8.7	200	4.4	105	3.4	7.6	2.6
14	305	9.3	200	4.3	105	3.3	6.8	2.7
15	(285)	9.4	200	4.2	105	3.1	6.9	2.6
16		9.4	215		110	2.6	6.6	2.6
17		9.4	245		115	1.9	5.2	2.6
18	275	9.2					4.5	2.5
19	295	8.9					2.1	2.6
20	270	9.0					1.5	2.8
21	245	(8.6)					2.2	3.0
22	235	(8.4)						3.1
23	225	8.0					2.0	3.2

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.

Table 71

Calcutta, India (26.6°N, 88.4°E) September 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(240)	(4.6)					(3.2)	(2.85)
01	(240)	(4.6)						
02	(240)	(4.6)						
03	(240)	(4.2)						(3.0)
04	(240)	(3.8)						
05	(225)	(3.4)						
06	(210)	(4.2)					(2.8)	(3.05)
07	(225)	(6.4)				---	(3.4)	
08	(240)	(7.1)				---	(3.8)	
09	(270)	(8.4)				---	(4.6)	(2.7)
10	(300)	(9.0)				---	(4.4)	
11	(300)	(10.0)				---		
12	(300)	(10.8)				3.5		(2.65)
13	(300)	10.8				3.4		
14	270	11.1				---		
15	270	11.0				---	3.4	2.6
16	270	11.0				---	3.5	
17	(270)	(10.4)				---	(3.9)	
18	(240)	(9.2)				---	(3.3)	(2.85)
19	(240)	(7.7)					(3.0)	
20	(240)	(6.6)						
21	(225)	(5.1)						(3.05)
22	(240)	(4.7)						
23	(240)	(4.6)						

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 72

Calcutta, India (22.6°N, 88.4°E) August 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(280)	(4.7)					(4.0)	(2.7)
01	(280)	(4.4)					(3.6)	
02	(260)	(4.1)					(3.4)	
03	(240)	(4.0)						(2.95)
04	(240)	(4.0)						
05	(260)	(4.0)						
06	(240)	(4.8)					(3.5)	(3.1)
07	(250)	(6.1)					(4.0)	
08	(240)	(6.3)					(3.9)	
09	(240)	(7.9)					(4.0)	(2.55)
10	(260)	(8.0)					(4.7)	
11	(270)	(8.8)					(3.4)	
12	(270)	(8.8)				---	(4.5)	(2.45)
13	(240)	9.0				---	4.2	
14	(240)	9.1				---		
15	(260)	9.0				---	(3.4)	(2.65)
16	270	9.2				---	3.8	
17	(270)	10.0					(3.4)	
18	(270)	(9.2)						(3.0)
19	(250)	(8.6)						
20	(270)	(7.6)						
21	(270)	(6.3)						(2.95)
22	(270)	(5.7)						
23	(270)	(5.4)					(3.7)	

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

TABLE 73

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

IONOSPHERIC DATA

h'F2 (Characteristic), Km (Unit), July (Month), 1955

National Bureau of Standards (Institution)

Observed at Washington, D. C.

Lat 38.7°N, Long. 77.1°W

Scaled by: E.J.W., J.W.P., L.F.M., J.J.S.

75°W Mean Time

Calculated by: E.J.W., N.B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	260	A	270	260	(290)A	240	300H	320	(300)L	410H	340	340H	320	370	360	390	340	360	(310)A	250	(230)A	(220)A	240	260
2	250	250	270	(280)S	(270)S	250	(250)A	370	280	480	360	340H	320	350H	420	370	380	320	310	270K	240K	210K	200K	300K
3	300K	290K	250K	(270)SK	(290)SK	260K	A K	(350)SK	440	300	360	A	410	(470)S	360	410	390	360	320	260	(260)A	(260)A	(260)A	(270)A
4	(240)A	250	(300)A	A	A	240	(300)L	400	280	420H	380	310	370	350	380	410	340	350	320	250	230	230	250	240
5	250	280	260	250	250	240	L H	330	300	300	370	360	320	330	330	380	310	300	290	250	230	240	(250)A	250
6	260	250	260	250	(280)S	210	L H	470H	380	300	300	370H	370	410	380	420	400H	330	300	280	250	250	280K	290K
7	280K	260K	250K	240K	270K	280K	L HK	440K	410K	G K	500K	A K	A K	A K	450K	600K	410K	330K	280K	270K	230K	290K	280K	260K
8	270K	250K	(280)AK	270K	270	(260)A	A	320	320	400	420	340	480	530	400	470	340	[330]A	310	240	(300)A	(280)A	320	240
9	260	290	260	290	(290)A	260	(270)A	350	(350)A	A	A	A	A	A	A	400	350	330	310	260	230	240	240	290
10	280	260	(290)S	A	A	(290)A	400	400	360	[340]A	460	320H	470AH	370	360	[360]A	350	340	A	A	(270)A	270	[280]A	280
11	250	(270)A	280	280	270	(300)A	420F	S	560	420	450	[450]A	450H	G	450	480	390	320H	250	250	290	280	280	240
12	220	280	260	310	(370)A	[360]A	350	500	G	G	G	670K	500K	610K	630K	460K	410K	390K	330K	280K	260K	240K	250K	270K
13	(310)A	[300]A	280	300	320	280	[480]A	L	310	G	G	500	530	450	450	450	420	330	320	260	240	250	260	270
14	260	250	270	280	300	240H	G	S	380H	(370)SH	A	A	520	440	370H	450H	350	340	[300]A	270	250	(250)A	240	(260)S
15	260	250	250	(250)S	270	260	250	(280)L	310	330	330	380	430	340	350	350	350	300	(280)A	(260)A	(260)A	240	(280)A	(280)A
16	240	270	(280)A	270	260	260	(250)A	300	(480)A	300	320	A	(450)S	450H	400	380	[360]A	300	300	250	240	(230)A	(280)A	(270)S
17	270	(300)A	280	250	260	(290)A	(330)AH	290	[380]A	460	380	410	420	430	400	400	350	320	300	(280)A	240	220	230	(280)A
18	240	290	280	270	260	250	(270)L	250	[350]A	450	380	390	[360]A	390	340	350	340	320	310	270	250	250	260	(260)S
19	270	280	[260]A	250	260	240	L	350	400	340	350	390	400	350	[380]A	350	380	(280)A	[260]A	(250)A	240	250	250	240
20	290	290	280	280	260	240	300	280	380	390	350	330	350	320	430	340	360	220	300	[260]A	[260]A	230	250	240
21	240	250	270	240	[270]A	250	260	(390)L	360	310	280	310H	380	[380]A	380	340	380	330	290	250	(280)A	[270]A	260	[260]A
22	[290]A	(290)A	<320A	<300S	(290)S	A	L	270	270	310	360	310	350	370	410	370H	350	290	270	270	(230)A	240	(240)A	230
23	240	(240)S	230	S	S	A	G	340	300	270	280H	(390)H	320	360	(500)S	460	330	330	280	260	(220)A	210	(210)S	(280)A
24	(280)S	A	A	A	A	A	(250)A	(390)S	300	280	290	270	310F	370	320	340	330	280	250	230	240	220	[260]A	250
25	300	(300)A	270	[260]S	250	260	G	G	400	290	410	G	G	500	(460)SK	370K	350K	320K	280K	250K	220K	220K	280K	290K
26	290K	280	290	280	(320)A	250	390	370	310	[300]A	300	410	370	360	390	360	350	320	270	230	230	240	250	270
27	260	270	290	(280)S	300	290	G	370	390	310	420	310	490	330	320	310	330	310	280	230	220	220	280	A
28	A	A	A	A	(300)S	230	L	330	300	[350]A	400	340	340H	400	340	340	(380)S	320	280	250	220	230	240	[300]A
29	270	310	A	A	300	250	L	340	[270]A	310	340	350	360	350	350	380	370	300	300	250	210	(240)A	A	A
30	A	280	(290)S	(290)S	(300)S	250	G	380	310	280	360	380	400	330	370	340	340	360	300	250	210	230	(220)A	[320]A
31	220	(290)S	(290)S	(300)S	(280)S	260	L	320	310	390	330	410	400	370	340	310	340	310	300	260	250	240	[240]A	240
Median	260	280	270	270	280	260	330	350	350	340	360	360	400	370	380	380	350	320	300	260	240	240	250	270
Count	29	28	27	24	27	28	21	28	31	30	29	26	29	29	30	31	31	31	30	30	31	31	30	29

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

GPO 836048

TABLE 74

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

Form adopted June 1946

foF2 (Characteristic), Mc (Unit), July (Month), 1955

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.W.P., L.F.M., J.J.S.

Calculated by: E.J.W., N.B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.5F	3.1	3.2	2.9	2.5F	3.1F	4.3H	4.4	(4.5)S	5.0H	5.4	5.8H	5.6	5.0	5.0	5.0	5.3	5.4	5.7	(6.0)S	6.0	(5.7)JS	4.6	4.5
2	3.9	3.6	3.1	(2.8)FS	(2.5)S	3.2	4.4	4.7	5.2	4.8	5.3	5.8H	5.5	5.6H	5.2	6.2	6.6	7.3	7.0	8.0K	7.2K	5.9K	(3.3)SK	3.1FK
3	3.0K	3.1K	3.0K	2.5K	(2.1)SK	3.0FK	(3.6)AK	(4.4)FS	5.0	5.4	5.3	[4.8]A	4.9	4.8	5.2	5.0	4.9	5.0	5.2	5.4	5.5	4.8	4.4	(4.1)PA
4	3.6F	(3.0)FS	(3.7)FS	FA	FS	3.2F	4.5F	4.5	5.2	5.0H	5.4	5.7	5.5	5.5	5.1	4.9	5.2	5.0	5.2	5.6	6.1	5.8	4.8F	4.1
5	4.0	3.6F	3.5F	3.2	2.6F	3.3	4.2H	4.9	5.4	5.5	5.6	5.5	6.3	6.0	5.9	5.8	6.2	6.2	6.1	6.4	6.6	5.8	4.8	4.4
6	4.2	3.8	3.2F	2.9	(2.3)FS	3.1	3.8H	4.5H	5.0	6.3	5.9	5.8H	5.3	5.3	5.6	5.3	5.5H	5.8	6.4	6.6	6.8	6.4	5.9K	5.1K
7	5.2K	5.2K	4.5K	3.7K	3.1K	3.2K	3.8HK	4.2K	4.6K	<4.4GK	4.8K	AK	AK	AK	5.0K	4.8K	5.0K	5.6K	5.4K	5.4K	5.1K	4.9K	K(5.0)JS	4.6K
8	4.7K	4.3K	3.7K	3.2K	3.0	3.4	4.3	5.1	5.3	5.0	5.4	5.8	5.0	4.9	(5.5)S	5.1	5.8	[5.8]A	5.8	6.0	6.0	5.6	5.0	4.7
9	4.2	4.4	4.2	3.8	3.4	3.4	4.4	(4.7)JS	5.3	A	A	A	A	A	A	5.5	5.6	5.5	5.6	5.7	6.0	5.6	(5.2)PS	(4.8)PS
10	4.5	(4.1)FS	(3.8)FS	A	A	(3.2)FS	4.3	4.6F	4.9F	[5.3]A	5.2	5.0H	(5.6)AH	6.0	5.5	[5.6]A	5.6F	5.5	A	A	6.0	5.9	5.7	5.7
11	6.2	4.3F	3.8	3.3F	3.0	2.9	3.8F	(4.1)JS	4.5	5.0	5.0	[5.0]A	5.0H	<4.6G	5.0	5.7	5.4	6.4FH	5.8	5.4F	5.0	4.7	5.0	4.8F
12	3.9F	3.2	2.9F	2.4	2.1	2.9	3.8	4.1	<3.9G	<4.1G	<4.4G	4.7K	4.7H	4.8K	4.5K	4.9K	5.2K	5.2FK	5.4K	5.4K	5.7K	5.2K	4.1	3.8F
13	3.8F	[3.4]A	(3.1)FS	2.3F	2.2F	2.6F	[3.8]A	4.1F	4.6	<4.3G	<4.3G	4.9	4.9	5.1	5.0	4.9	5.2	5.2	5.4	5.3	5.5	4.9	4.8	4.7
14	4.2	4.0	3.6	3.3	2.9	2.8H	<3.5G	(4.0)JS	4.6H	(4.8)HS	A	A	4.8	5.0	5.4H	(5.0)HS	5.4	5.5	[5.6]A	6.0	(6.2)S	(6.0)S	5.5	(4.3)PS
15	4.4	3.9	3.5F	3.0	2.9	3.2	4.5	4.9	5.4	5.6	6.0	5.7F	5.9	6.4	6.0	6.0	6.2	6.8	6.8	6.7	(7.2)PS	6.4	(5.4)S	(5.0)S
16	4.8	4.2F	4.3F	3.6F	3.2F	3.0	(4.5)S	4.9	4.7	5.6	5.5	[5.4]A	(4.9)S	5.0H	5.0	5.3	[5.6]A	5.7	(5.4)S	5.5	5.7	5.6	4.7	(4.4)S
17	4.2	(3.6)FA	(3.6)FS	3.3	3.0	3.1	(4.2)H	4.8	(4.6)A	4.8	5.3	5.1	4.9	5.0	5.0	5.1	5.2	5.4	5.6	6.4	6.6	6.0	5.0	4.2
18	3.5F	3.2F	3.1F	3.0F	2.8F	3.3	4.1	5.1	[4.8]A	4.8	5.5	5.6	[5.3]A	5.2	5.4	5.5	5.0	5.2	5.2	5.4	5.8	5.4	(4.8)JS	(4.2)S
19	3.7	3.5	(3.5)JS	3.2	(2.6)FS	3.4	4.2	4.8	5.0	5.4	5.3	5.2	5.4	5.3	[5.2]A	4.9	4.7F	5.1	4.8	4.8	5.2	5.3	4.4	4.1
20	3.5F	3.7	3.6F	3.1F	2.7F	3.0F	4.2	4.5F	4.8	5.2	5.4	5.8	5.6	5.5	5.2	5.3	5.2	(5.3)S	5.6	(5.7)A	6.0JS	5.8	5.6	5.1JS
21	4.8	4.2	3.6	3.1	2.6	2.9	3.9	4.4	4.9	5.8	6.0	5.7H	5.1	[5.2]A	5.1	5.4	5.0	5.5	6.0	6.4	6.8	[5.9]A	4.7F	4.0
22	(3.3)A	3.1	(3.0)F	2.6JS	2.3F	[2.7]A	3.8	4.9	5.3	5.0	4.9	5.4	5.2	5.2	4.8	5.2H	5.3	5.0	5.0	5.5	5.8	5.8JA	5.4	4.6JS
23	4.6	3.6F	3.1	(2.7)S	(1.9)JS	(2.5)A	<3.3G	4.2	5.2	5.5	5.0H	(5.2)H	5.4	5.2	(4.8)S	4.7	5.3	5.3	5.4	6.5	6.6	(5.0)S	3.6	(3.5)A
24	(3.2)PF	A	A	(2.1)JA	A	A	3.3	(4.2)S	5.3	5.6	5.9	5.8	5.4F	5.3	5.6	5.4	5.4	5.7	5.7	5.2	4.9	4.8	[3.6]A	3.3
25	2.8F	2.7F	2.4F	(2.3)JS	2.1	2.6	<3.3G	<3.8G	4.3	5.0	4.8F	<4.4G	<4.3G	4.6	4.5K	4.9K	4.9K	5.0K	4.7K	5.4K	5.4K	4.5K	3.6FK	3.4K
26	3.2K	2.9	2.7F	2.5	2.3	2.6	3.4	(4.1)S	5.3	[5.4]A	5.4	4.8	5.1	5.0	4.9	5.2	5.3	5.6	5.7	5.3	5.2	4.7	3.6F	2.9
27	3.2	2.4F	2.3F	1.9F	1.7F	2.4	<3.3G	4.1	4.3	5.1	4.9	5.2	4.7	5.5	5.4	5.5	4.9	5.0	4.9	4.8	5.2	4.2	3.0	A
28	A	A	A	A	2.2F	2.6F	3.6F	4.5	5.2	[4.9]A	5.4	(5.2)S	5.5H	5.0	5.3	5.3	5.2	5.5	5.7	6.2	6.0	5.2	4.0	[2.9]A
29	(2.8)FS	(2.5)FS	A	A	2.3F	2.6	3.8	4.4	[4.8]AS	5.1	5.4	5.0	5.2	5.2	5.4	4.9	5.1	5.6	5.6	6.3	(6.6)S	5.8	A	A
30	A	(2.6)F	2.3F	(2.3)F	(2.1)FS	2.4	<3.5G	4.3	5.7	5.7	5.2	5.2	5.2	5.1	5.1	5.2	5.3	5.2	5.8	6.4	6.2	5.1	4.2	[3.3]A
31	3.5	(2.7)FS	(2.4)FS	(2.6)FS	(2.1)FS	2.6F	3.8F	4.4	4.9	4.8	5.5	5.0	5.2	5.4	5.4	5.3	5.3	5.2	5.2	5.6	6.1	5.6	4.8	4.8JS
Median	3.9	3.6	3.4	2.9	2.5	3.0	3.8	4.4	4.9	5.0	5.4	5.2	5.2	5.2	5.2	5.2	5.3	5.5	5.6	5.6	6.0	5.6	4.8	4.3
Count	29	29	28	27	28	30	31	31	31	30	29	28	29	29	30	31	31	31	30	30	31	31	30	29

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

TABLE 75

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

foF2 (Characteristic), Mc (Unit), July (Month), 1955

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.W.P., L.F.M., J.J.S.

Calculated by: E.J.W., N.B.

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	(32)A	32	31	30	26F	38	44H	(49)H	50	55	56	54H	53H	51	50	50	53	56	58	59	60	52	44	42
2	39	33	28F	25	26	37	48	51	47JS	50	53	55	53	[53]A	54H	67	74	74	70	77K	68K	52K	(29)SK	30K
3	31K	31K	K27JS	23K	23K	[33]AK	K[40]AS	46	52	(51)H	54H	<45G	48H	49	52	49H	50	52	51	54	52	48Y	42JA	(38)JA
4	32JF	(31)FS	(42)JA	FA	FA	37	45	47	50	57	53	53	55	55	50	50	51	51	55	58	57	(50)JS	45	39
5	37F	36F	34	30	27F	38	45	50	57	57H	55	57	63	60	58	61	63	64	62	62	62	53	49	43
6	41F	36F	29F	26F	24	35	42	46	57	60	57	57H	55	58	54	55	57	60	68	68	68	64	58K	52K
7	53K	49K	43K	34K	29K	36HK	42K	45HK	47K	45K	K(48)HS	[48]AK	48K	[48]AK	48K	50K	54K	57K	52K	56K	52K	50K	K47JS	46K
8	43K	41K	37K	30	29	38	44	46	49	48	56	54	50	(46)HS	54	54	58	57	60	62	57	52	50	44
9	42	43	(40)FA	(35)FS	32	49	46JA	47	A	A	A	A	A	A	A	55	56	56	56	58	58	57	(47)PS	(46)FS
10	(46)FS	42	A	A S	(29)AS	37	[43]A	48FH	55	51	60	58	53	58	[57]A	56	56	55	[58]A	62	60	57	57	58F
11	55F	38F	35F	32F	(27)F	36	<38G	45	(48)AS	52	47	52H	<47G	49	[54]A	52	54F	61F	54	49F	54	56	50	49F
12	34	31	24	22F	23F	34	<37G	42	<40G	<42G	<44G	<45GK	<45GK	<45GK	49K	48HK	52FK	55K	53K	57K	57K	42F	41	39
13	37	30	25	22F	22	32	[40]A	44F	45	45	49	52	50	52	49	51	53	54	53	54	55	48	47	45
14	42	37	33	32	27	32	36	44H	48H	A	A	50	(49)PS	(49)S	53H	53	54	A	A	60	60JS	56	(48)FS	45
15	42	38	33	30	30	41	49	49	55	58	58	61	64	62	58	59	65	69	67	70	(66)S	58	[52]A	59JS
16	42F	42F	37F	34F	29F	37	[47]A	(47)A	52	53H	[56]A	(52)FA	52	51	[51]A	54	56	54	54	54	56	(48)A	47	41
17	(37)FS	37F	34F	32	28JA	36	(45)AH	(47)A	47H	50	53	50	49	50	50	53	50	55	57	65	63JS	57	47	40F
18	32	34JS	28F	27F	28	39	47	48	47	51	55	58	52	54	52	52	50	50	53	(55)S	(54)S	(49)S	45	39F
19	38	35	(35)JS	29JS	29	38	48JS	50	52	53	55	54	52	51	52	50	52	(52)A	48	47	55	49	45	36F
20	(53)F	36	36F	30F	28	36	48	48	49	51	60	58	58	51	54	52	53	54	57	60	62	58	51JS	50JS
21	42	38	35	30	27JA	34	43	48	55	62	57	53	50	[51]A	53H	55	54	56	62	68	(61)A	49	43	37
22	[32]A	(30)F	(32)A	[24]A	23	32	44	49	48	50F	52H	52	53	52	53	49	54JA	52	50	59	58	52	47	47
23	41JS	33JF	28F	(20)FS	[22]A	32	40	48	50	50	50H	(52)JS	50	48	49	49JS	[52]A	54	60JS	67	56	42	35	(30)JF
24	[31]A	(27)FA	A	A	A	31	[38]A	46	55H	63	55H	52	54	53	56	52	56	57	54	49	49	41	33	27F
25	[28]A	28F	(26)JS	22	20	30	36	41	46	48	47	<43G	<43G	46	47K	48K	49K	49K	53K	55K	52K	38FK	35K	33FK
26	31F	29	26F	23	24F	31	40	46	50	[54]A	49	50	52	51	50	52	55	60	57	54	49	39	33	31
27	27F	24	22F	(19)JS	18F	33	38	43	45	49	49	49	50	53	54	54	47F	50	47	49	47	(34)JS	A	A
28	A	A	A	22F	23F	33	40	48	50	52	52	52	54	50	52	52	55	56	58	65	58	45	31	28
29	(27)AS	(25)AS	A	A	23	32	42	48	50	52	50	48	54	55	(51)PS	50	54	54	58	66	62	A	A	A
30	25	(24)F	(24)F	(21)F	21F	32	<38G	49	58	53	(54)H	52	50	52	50	52	51	54	62	68	52	47JS	37	36
31	28	(27)FS	(24)FS	(24)FS	23F	32	(40)F	45	48H	49	50	49	53	54	54	51	52	53	53	57	54	50	48	40
Median	37	34	32	27	26	35	42	47	50	51	53	52	52	51	52	52	54	55	56	59	57	50	47	40
Count	30	30	27	27	29	31	31	31	30	29	2[illegible]	30	30	30	30	31	31	30	30	31	31	30	29	29

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

TABLE 76

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

h'F1 (Characteristic), Km (Unit), July (Month), 1955

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: E.J.W., J.W.P., L.F.M., J.J.S.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

Calculated by: E.J.W., N.B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						Q	220H	220H	210H	200H	200	(200)H	200H	(200)A	200H	A	AH	230	A	A				
2						Q	A	(220)A	210	(230)A	200	200	(200)A	(190)A	190H	170H	220	210	(210)AH	250K	K			
3						QK	AK	220K	(220)A	210H	200H	(200)AH	(200)AH	180H	(210)A	200H	200H	[220]A	220H	A				
4						Q	A	210	(220)A	210	[200]A	200	(200)A	180	200	200	200H	210H	220	240				
5						Q	210	210	200H	200H	(200)A	200H	200H	180H	200H	180	210H	220	200	240				
6						Q	220H	230	220	210	190	180	190H	[190]AH	190	190H	220	220H	230H	A				
7						QK	240K	210HK	200K	210K	180HK	(170)AK	AK	AK	190HK	190HK	200HK	220K	AK	AK	K			
8						Q	A	180H	170H	180H	230	200H	180H	180H	220	200	A	A	A	A				
9						A	A	210	A	A	A	A	A	A	A	A	A	210H	A	230H				
10						A	220	(220)A	(200)A	200A	(200)AH	190H	[200]A	(220)A	A	A	200H	200	A	A				
11						Q	230	220	(220)A	220A	(220)A	[220]A	(220)A	200H	A	A	190H	210	190H	A				
12						A	250	210H	220	200	210	210HK	180K	180HK	200HK	210HK	200HK	200HK	210HK	250K	250K			
13						Q	A	200FH	220	200H	180H	200	210	180H	200H	220H	[210]AH	200H	220	A				
14						Q	210H	210	180H	(210)AH	180H	[180]A	190H	180	190H	210	(210)AH	A	A	A				
15						Q	220	220	210	200	180H	[200]A	190H	200H	200	(200)A	[220]A	A	A	A				
16						Q	A	(240)A	[230]A	A	A	A	(200)A	190H	[220]A	210H	[220]A	(200)H	210H	A				
17						Q	A	(210)AH	[210]A	200	(200)AH	170H	[200]A	(220)A	210	[220]A	(200)AH	210	(220)A	A				
18						Q	220	220H	[210]A	200H	[220]A	(230)A	[240]A	[240]A	230	210	200H	220	(220)A	Q				
19						Q	230	[210]A	210	(230)AH	[220]A	200	180	190	[200]A	210	210	A	A	A				
20						Q	210	[210]A	(210)A	200	[180]A	200	200	190	200H	200H	210	220H	(220)A	A				
21						Q	Q	220	[220]AH	190H	180H	[190]AH	170H	[180]A	180H	180H	200H	200H	(250)A	A				
22						A	230	[220]A	210	200	180	(210)AH	200	(180)H	190	210	(220)A	200H	210	A				
23						Q	230	A	A	200H	180	(170)H	180F	180H	200	200	210	[220]A	220	A				
24						Q	A	A	200H	180	180	180H	180H	(200)A	[200]A	(200)A	220	210	200	Q				
25						Q	220	200	190	180	190	170'	170H	170H	240K	200HK	210K	200HK	230K	QK	K			
26						Q	210	220	190	A	A	170	[180]A	200	180H	210	190H	200	230	Q				
27						Q	220H	220	200H	180	[190]A	200	200H	210H	180	[180]A	190	(190)AH	240	Q				
28						Q	230	230	230	[230]A	A	(220)AH	180H	210	200H	210	210	220H	210	Q				
29						Q	220	210	(210)A	180	200	210	210H	190H	220H	190H	180	210	220	Q				
30						Q	240	210H	220	(220)A	180	200H	240	200H	180	190	200	220	220	A				
31						Q	210	210	(220)A	(220)A	[210]A	200	200H	[200]A	200	200H	[210]A	220	240	Q				
Median							220	210	210	200	200	200	200	190	200	200	210	210	220	240	—			
Count							21	29	29	28	27	29	29	29	28	27	28	27	23	5	1			

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

GPO 836046

Form adopted June 1946

TABLE 77

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

foF1 (Characteristic), Mc (Unit), July (Month), 1955

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.W.P., L.F.M., J.J.S.

Calculated by: E.J.W., N.B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						Q	L H	3.9 H	4.1 H	4.2 H	4.3	(4.4) A H	(4.5) H	4.5	(4.3) H	[4.2] A	4.1 H	4.0	A	A				
2						Q	L	(3.7) A	(3.9) S	4.3	4.3	4.4	4.4	4.4	(4.4) H	4.3 H	4.2	3.8	3.6 H	L K	K			
3						Q K	A K	3.7 K	(3.9) A	4.2 H	4.5 H	4.5 H	4.5 H	4.5 H	4.3	(4.2) H	(4.1) H	[4.0] A	(3.6) L H	A				
4						Q	L	3.9	4.2	4.3	4.5	4.5	4.5	4.5	4.4	4.3	4.2 H	4.0 H	3.5	L				
5						Q	L	3.8	4.3 H	4.6 H	4.4	4.6 H	4.6 H	4.5 H	4.6 H	4.3 F	4.1 H	4.0	3.5	L				
6						Q	L H	4.0	4.2	4.4	4.5	4.6	4.7 H	4.6 H	4.5	4.5 H	4.2	4.3 H	3.7 H	A				
7						Q K	3.5 K	3.8 H K	4.1 K	4.4 K	4.5 H K	4.5 A K	A K	A K	4.5 H K	4.5 H K	4.2 H K	4.0 K	A K	A K	K			
8						Q	A	4.1 H	4.2 H	4.4 H	4.5	4.6 H	4.6 H	4.6 H	4.5	4.4	(4.4) A	A	A	A				
9						A	A	3.9	A	A	A	A	A	A	A	A	A	4.3 H	3.7	L H				
10						A	3.7	4.0	4.3	[4.4] A	4.6 H	4.5 H	[4.6] A	4.7 F	A	A	4.3 H	4.1	A	A				
11						Q	3.6	3.9	4.3	[4.4] A	4.5	[4.5] A	4.5	4.6 F H	4.5 F	[4.4] A	4.3 H	4.0 F	L H	L				
12						A	3.3	3.8 H	3.9	4.1	4.4	4.5 H K	4.5 K	4.4 K H	4.4 H K	4.3 H K	K 4.2 F H	K 3.9 F H	3.5 H K	L K	L K			
13						Q	A	3.9 H	4.1	4.3 H	4.3 H	4.4	4.5	4.5 H	4.5 H	4.4 H	4.3 H	4.1 H	3.5	A				
14						Q	3.4 H	3.8 F	4.0 H	(4.2) H	4.4 H	[4.4] A	4.4 H	4.4	4.4 H	4.4	4.2 H	A	A	A				
15						Q	L	L	4.1	4.4	4.5 H	[4.5] A	4.5 H	4.5 H	4.5	4.4	[4.3] A	(4.0) A	A	A				
16						Q	A	(3.9) L	[4.1] A	(4.2) A	(4.4) A	[4.5] A	(4.5) A	4.5 H	(4.4) A	4.2 H	[4.1] A	4.0 H	L H	A				
17						Q	A	3.6 H	[4.0] A	(4.2) S	(4.3) H	4.4 H	(4.4) A	4.4	4.3	(4.3) A	4.2 H	3.8	3.5	A				
18						Q	L	L H	[4.0] A	4.2 H	4.3	4.3	[4.4] A	4.4	4.4	4.3	4.2 H	3.9	(3.4) L	Q				
19						Q	L	3.8	4.1	4.2 H	[4.2] A	4.3	4.4	4.3	[4.3] A	4.3	4.2	A	A	A				
20						Q	3.3	[3.8] A	4.2	4.3	4.4	4.4	4.5	4.5	4.5 H	4.3 H	(4.2) L	(4.0) L H	(3.6) L	A				
21						Q	Q	4.0	4.1 H	4.5 H	4.4 H	4.5 H	4.5 H	[4.5] A	4.4 H	4.2 H	4.3 H	3.9 H	3.5	L				
22						A	(3.3) L	3.7	4.0	4.2	4.3 F	4.4 H	4.5	4.4 H	4.3	4.2	4.1	(3.7) H	3.3	A				
23						Q	3.3	3.5	(4.0) A	(4.1) H	4.3	(4.4) H	(4.4) F	(4.4) H	4.2	4.1	(3.9) S	3.8	3.4	L				
24						Q	A	(3.6) A	4.0 H	4.2	4.1	4.3 H	4.3 H	4.3	[4.2] A	4.2	4.1	3.9	L	Q				
25						Q	3.3	3.8 F	3.8	4.1	4.2	4.4	4.3 H	4.2 H	4.1 K	4.1 H K	3.8 K	3.8 H K	L K	Q K	K			
26						Q	3.1	3.6	4.0	A	A	4.2	[4.2] A	4.3	4.2 H	4.2	3.9 H	3.8	3.4	Q				
27						Q	3.3 H	3.7	3.9 H	3.9	[4.1] A	4.3	4.3 H	4.3 H	4.3	[4.2] A	4.2	3.8 H	L	Q				
28						Q	L	3.6	4.0	[4.2] A	(4.4) A	4.4 H	4.4 H	4.4	4.4 H	4.2	(4.1) S	3.8 H	3.4	Q				
29						Q	L	3.7	3.8	4.0	4.2	4.3	4.4 H	4.3 H	4.3 H	4.1 H	4.1	3.9	3.5	Q				
30						Q	3.5	3.7 H	3.9	4.0	4.4	4.5 H	4.5	4.5 H	4.3	4.2	4.1	3.8	3.4	A				
31						Q	L	3.7	4.0	4.2	4.3	4.3	4.4 H	[4.1] A	4.2	4.4 H	4.1	3.9	3.4	Q				
Median							3.3	3.8	4.0	4.2	4.4	4.4	4.5	4.4	4.4	4.3	4.2	3.9	3.5	—	—			
Count							12	29	30	29	27	30	29	29	29	29	30	28	19	0	0			

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

GPO 836048

TABLE 78

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25 D.C.

IONOSPHERIC DATA

Form adopted June 1946

h'E (Characteristic), Km (Unit), July (Month), 1955

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by E.J.W., J.W.P., L.F.M., J.J.S.

Calculated by E.J.W., N.B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						S	110^{H}	100	100	100	100	100	100	100	100^{H}	100^{H}	100^{H}	110^{H}	110	A				
2						S	A	110	110	100	100	100	100	100	$(100)^{S}_{H}$	100	110	110	A	S^{K}				
3						S^{K}	A^{K}	110^{K}	100	$(100)^{S}$	100	100	A	A	A	A	$(100)^{A}$	A	A	A				
4						S	A	110	110	100	100	100^{H}	100	100	100	100	100	110	110	S				
5						S	110	110	100	100	100	100	100^{H}	100^{H}	100	100	110	110	110	110				
6						S	110	110	100	100	100	100	100	100	100	100	100	100	110	S				
7						S^{K}	110^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	110^{K}	$(130)^{S}_{K}$				
8						S	110	110	100	100	100	100	100	100	100	100	100	110	110	S				
9						S	110	100	100	100	100	100	100	100	100	100	100	110	110	S				
10						S	100	100	110	110	100	100	100	100	100	100	100	100	100	A				
11						S	110	110	100	100	100	100	100	100^{H}	100	100	100	110	110	S				
12						S	110	110	100	100	100	100^{K}	100^{K}	100^{K}	100^{K}	100^{H}_{K}	100^{K}	100^{H}_{K}	110^{K}	S^{K}				
13						S	110	100	100	100	100	100	100	100	100	100^{H}	100	100	110	S				
14						S	120	100^{H}	100^{H}	$(100)^{S}$	$(100)^{S}_{H}$	100	$(100)^{B}$	$(100)^{B}$	$(100)^{H}_{B}$	$(110)^{B}$	110	110	110	S				
15						S	120	100	$(100)^{S}$	100	100	100	100	$(100)^{S}_{H}$	100	100	110	110	110	A				
16						S	A	110	100	100^{H}	100	A	A	A	100	100^{H}	100	110	110^{H}	A				
17						S	$(120)^{S}$	110^{H}	100	100	100	$[100]^{A}$	100	100	100^{H}	100	100	110^{H}	110	A				
18						S	120	110	$(110)^{A}$	100	100	100	100	100	$[100]^{A}$	100	$[100]^{A}$	110	110	$(120)^{S}$				
19						S	110	100	100	100	100	100	100	100	100	100	100	110	110	S				
20						S	110	100	100	100	100	100	100	100	100	100	100	$(110)^{A}$	110	S				
21						S	A	110	100	100	A	A	100	$[100]^{B}$	100	110^{H}	110^{H}	110^{H}	110	S				
22						A	$(110)^{A}$	110	100	A	A	100	100	A	A	100^{H}	100^{H}	100^{H}	$(110)^{S}_{H}$	S				
23						S	$(110)^{S}_{H}$	100	100^{H}	100	A	A	100^{H}	100^{H}	100^{H}	$(100)^{S}$	$(100)^{S}$	110	110	S				
24						S	$(110)^{S}$	100	100	100	100	100	100	100	100	100	100	100	100	S				
25						S	110	100	100	100	$(100)^{A}$	100	100	100	100^{K}	$(100)^{A}_{K}$	100^{K}	100^{H}_{K}	120^{K}	S^{K}				
26						S	120	100	100	100	100	$(100)^{A}$	100	100	100	100	110	110	120	S				
27						S	110	110	100	$(100)^{A}$	$(100)^{A}$	$(100)^{A}$	100^{H}	100	100	100	$(100)^{A}$	$(100)^{A}$	$(100)^{A}$	S				
28						S	120	100	100	100	100	$[100]^{A}$	100	100	100	100	100	100	100	S				
29						S	$(120)^{A}$	100	100	100	100	100	100	100	100	$(100)^{A}_{H}$	100^{H}	110	110	S				
30						S	$(120)^{S}$	110	110	100	100	100	100	100	100	100	100	110	110	S				
31						S	$(110)^{S}$	110	100	100	100	100	100	100	100	100	100	100	110	S				
Median						—	110	110	100	100	100	100	100	100	100	100	100	110	110	—				
Count							26	31	31	30	28	28	29	28	29	30	31	30	29	3				

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

GPO 836068

Form adopted June 1946

TABLE 79

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

foE (Characteristic), Mc (Unit), July (Month), 1955

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. W. P., L. F. M., J. J. S.

Calculated by: E. J. W., N. B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						<1.6S	AH	A	(3.0)A	(3.1)A	A	A	(3.3)A	(3.4)A	(3.3)H	3.2H	3.0H	2.8H	(2.3)A	A				
2						<1.6S	A	(2.5)A	(2.8)A	(2.9)A	(3.2)A	A	A	A	(3.5)H	3.2	3.0	A	A	<1.6SK				
3						<1.5SK	AK	AK	(2.9)A	(3.2)A	A	A	A	A	A	A	(3.1)A	A	A	A				
4						<1.6S	A	A	(3.0)A	(3.1)A	3.3	3.4H	A	A	3.4	3.2	[3.0]A	2.8	A	<1.6S				
5						S	A	2.6	A	A	A	A	3.4H	3.4H	A	A	A	A	A	A				
6						<1.6S	A	A	2.9	3.2	A	A	A	A	A	A	A	2.9	2.4	<1.6S				
7						<1.6SK	2.1K	AK	AK	3.3K	3.3K	AK	AK	AK	AK	AK	3.1K	[2.8]AK	2.4FK	AK				
8						<1.6S	A	A	A	A	A	A	A	A	A	A	A	(2.9)A	A	A				
9						<1.6S	A	(2.6)A	2.9	[3.2]A	(3.3)S	A	A	A	A	A	A	(2.9)A	A	<1.6S				
10						<1.5S	A	A	3.0	A	A	A	A	A	A	A	A	A	A	A				
11						<1.6S	A	A	A	3.1	[3.3]A	3.5	3.5	3.3H	A	A	3.3	2.9F	2.3	<1.6S				
12						<1.6S	2.2	2.5	3.0	3.2	3.3	AK	AK	AK	AK	3.3HK	3.0K	2.8HK	2.4K	<1.6SK				
13						<1.6S	1.9	2.4	2.9	3.2	3.3	A	A	A	3.3	3.3H	3.1	[2.6]A	2.2	<1.6S				
14						S	A	2.5H	(2.9)A	3.1	3.3H	[3.3]A	3.3	3.4	3.4H	[3.3]A	(3.1)A	(2.8)A	(2.4)A	<1.6S				
15						<1.6S	A	A	[2.9]A	3.1	3.3	(3.4)A	(3.4)A	3.4H	(3.4)A	(3.3)A	3.1	2.8	A	A				
16						<1.6S	A	(2.5)A	2.8	(2.9)AH	A	A	A	(3.5)A	3.3	3.2H	(3.0)A	2.8	2.3H	A				
17						<1.6S	(2.0)A	2.4H	(2.7)A	(3.0)A	A	A	A	A	3.4H	3.2	(3.0)A	(2.6)AH	(2.2)A	A				
18						<1.6S	2.2	(2.5)A	[2.8]A	(3.2)A	(3.3)A	A	A	A	A	A	3.0	2.8F	2.4	A				
19						<1.6S	A	(2.5)A	2.9	3.1	3.1	[3.2]A	3.3	A	A	3.2	A	A	A	<1.6S				
20						<1.6S	(2.1)A	2.4	(2.9)A	[3.0]A	(3.1)A	A	A	(3.5)A	A	A	3.1	2.8	2.4	<1.7S				
21						<1.6S	A	A	(3.1)A	A	A	A	A	A	A	3.2H	3.1H	2.7H	2.4	<1.6S				
22						A	A	(2.6)A	(3.0)A	A	A	A	A	A	A	3.3H	3.0H	(2.7)H	(2.4)H	<1.6S				
23						<1.6S	(1.8)H	(2.5)A	(2.7)AH	(3.0)A	A	A	(3.2)H	(3.3)H	(3.2)H	3.1	(3.0)A	A	A	<1.6S				
24						<1.6S	A	A	A	A	A	A	A	2.9	A	A	A	A	A	<1.6S				
25						<1.6S	A	A	A	A	3.1	A	A	A	AK	3.1K	[2.8]AK	2.6HK	2.2K	<1.6SK				
26						<1.6S	A	A	A	A	A	A	A	A	3.3	3.1	2.9	[2.5]A	2.1	<1.6S				
27						<1.6S	A	A	(2.8)A	A	A	A	3.2H	A	A	A	A	A	A	<1.6S				
28						<1.6S	1.9	A	A	A	A	A	A	3.3	A	A	A	A	A	<1.6S				
29						<1.6S	A	A	A	A	A	A	3.4	3.4	(3.3)P	3.2H	3.0H	(2.8)A	2.2	<1.6S				
30						<1.6S	A	2.5	2.7	A	A	A	A	3.3	A	A	A	A	(2.1)P	<1.6S				
31						<1.6S	A	A	A	A	A	A	A	A	A	A	A	A	2.3	<1.6S				
Median						<1.6	2.0	2.5	(2.9)	(3.1)	3.3	(3.4)	3.3	3.4	3.3	3.2	3.0	2.8	2.3	<1.6				
Count						28	8	14	21	18	13	5	9	12	11	16	20	20	18	21				

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

GPO 835048

TABLE 80

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

Es (Characteristic), Mc, Km (Unit), July (Month), 1955

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.W.P., L.F.M., J.J.S.

Calculated by: E.J.W., N.B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	4.0 110	5.0 100	7.6 110	2.2 100	4.4 100	3.1 100	4.9H 110	4.5 110	7.0Y 110	5.1 120	4.4 100	4.2 100	4.5Y 110	3.9Y 100	G	6.0Y 120	9.3Y 130	5.7Y 130	8.2 120	9.0 110 H	5.4 110	4.3 110	4.2 110	2.3 110
2	3.2 110	4.2 100 H	4.1 110	2.9Y 100H	3.1 120	2.4Y 100H	7.2Y 120	7.4 120	5.0 120	5.7 110	4.3 120	4.5Y 110	4.5Y 110H	5.8 110	G	G	G	(3.7)S 110	4.9F 110	2.2 120	<1.6S S	<1.6S S	<1.6S S	2.4 110
3	3.1 120	2.9 110	2.4 110	<1.6S S	<1.6S S	<1.5S S	4.6 120	5.8 110	6.4H 110	7.4Y 110	4.5 110	4.8 110	4.6 100	4.2 100	4.8 100 H	6.8Y 100	3.9 100	5.3 100	3.7 100 H	4.7 120	5.6 110	3.6 120	4.2 110	4.8 110
4	4.8 100	3.8 100	3.7 110	4.3 100 H	9.0Y 100H	5.0 110	3.6 120	7.0 100H	4.6 120	6.3 120	7.0 110	9.0 110	6.4 100	5.1 100	4.7 100	4.3 100	4.3 100 H	3.3 110	4.9 120	3.4 120	5.0 120	4.6 110	3.6 110	4.2 110
5	2.9 100	2.9 100	2.9 100	4.3 100	2.3 100	G	6.0Y 100	9.0 100 H	4.8 110	4.6 110	9.0 100	4.8 100	3.9 100	4.5 100 H	4.6 110	6.2 110	7.4 110	5.2 110	5.2 100	4.5 110	<1.6S S	<1.6S S	3.3 120	3.5 110
6	3.7 110	2.9 110	<1.6S S	2.7 100	2.2Y 100	G	4.8 110 H	3.6 110	4.9H 110	4.7 110	4.3 100 H	4.4 100	7.0 110	7.4 120	6.6 100	5.0 110	4.0 100	4.3 110	3.9 120	5.1 110	4.7 110	3.2 110	(2.3)S 110	2.2 100
7	2.6 110	<1.6S S	<1.6S S	E	2.8 100	G	3.8 110 H	4.5 110 H	4.5 100	G	4.9 110	7.5 100	9.0 100	8.0 100	4.3 110	7.4 100	(4.8) (110) S	4.3 120	5.3 120	4.8 120	4.3 110	5.4 120	3.7 110	3.3 100
8	4.3 100	3.6 100 H	4.7 100	3.7F 100	2.2 100	4.7 110	5.8 110	7.4 110	(5.8)S 100	4.4 110	7.0 100	4.9 100	3.8 110	4.4 110	(5.0)S 110H	4.2 110	5.6 120	9.8 110	11.0 110	18.0 110	7.2 110	6.6 110	4.8 110	2.8 100
9	<1.6S S	3.5 100	2.9 100	3.2 100	5.0 100	5.1 100 H	5.6 110	5.0 120	6.2 110	13.8 110	14.5 100	12.5 100	11.0 100	14.0 100	12.0 110	8.0 110	5.2 120	9.0 110 H	7.2 110	2.9 110	4.4 110 H	(5.2)S 100	3.7 110	4.3 120
10	3.1 120	(5.0)S 100H	7.4 110	8.2 100 H	7.2 100	7.0 110	7.0 110	10.0 110 H	8.0 110	9.0 100	7.8 110	4.9 110	6.0 110	6.8 110	8.4 110	8.6 100	5.0 100 H	5.8 100	10.5 110	19.0 100	4.4 110	3.7 120	6.8 110	5.2 110
11	5.6 110	4.3 100	4.1 100	8.0 100	2.8 100	3.7 110	7.1 110	4.9 110	5.6 110	6.2 110	5.2 110	5.6 110	7.0 110	5.2 110	5.8 110	12.0 100	3.3 100	G	3.6 120	4.1 140	<1.6S S	<1.6S S	<1.6S S	2.2 100
12	<1.6S S	<1.6S S	4.6 140	2.4 150	3.0 120	3.7 120	3.1 140	G	3.6 110	4.8 110 H	4.4 110	7.2 100	5.0 100 H	4.3 100	3.5 100	3.5 130	4.5 120	G	3.0 110	2.9 110 H	2.2 110	<1.6S S	2.4 110	2.7 110
13	4.9 110	4.9 110	3.8 110	4.8 100 H	4.3 110 H	3.4 110	4.8 120	9.4 110	4.9 110	5.4 110	6.3 100 H	7.4 100	4.7 100 H	8.1 110	4.2 120	5.0 120	5.0 110	4.2 110	2.6 120	4.9 110	3.2 110	2.7 110	2.9F 120	2.4 110
14	3.9 100	2.9 110	3.1Y 110	3.2Y 110	<1.6S S	G	2.3 120	3.8 120	5.1Y 100H	4.6 120	7.8 110 H	8.3 110	3.8 110	4.9 110	G	4.6 120	5.2 120 H	5.4 120	12.8 110	4.7 110	4.7 110	4.7 110	5.6 110	4.3 100
15	3.1 110	<1.6S S	<1.6S S	2.7 120	2.7 130	3.0 120	3.3 120	8.4Y 100H	5.4 110	4.6 120	4.9 120	7.0 110 H	3.7 120	G	4.0Y 120	4.6H 110	7.0Y 120	5.6 110	5.7 110	5.2 110	5.6 110	4.8 110	4.3 110	4.8 110
16	4.4 100	4.4 100	3.7 100	4.1 100 H	2.4 100 H	<1.6S S	4.9 110	11.2Y 110	7.8 110	6.6 110	9.1 100	10.0 100	6.6 100	5.8Y 100	5.8 120	4.0 120	6.3 110	4.2 130	3.4 120	3.8Y 110	2.9 130	5.6Y 110H	5.2 100	4.2 100 H
17	4.6Y 110H	4.5 100	2.9 100	4.3 100 H	4.2 120	4.2 120	4.5 110	7.4 110	5.6 110	8.5 110	7.2 100	8.0 100 H	7.2 100	4.9 110	6.8Y 120	4.9 120	6.6 110	6.6 110 H	4.5 110	7.1 110	3.8 100	3.1 100	3.2 100	4.8 100
18	3.4 100 H	3.1 110	<1.3S S	<1.3S S	<1.3S S	4.0 120 H	G	4.2 110	7.0 110 H	7.8 110	5.2 110	5.3 100	7.6 100	5.3 100	4.9 100	4.5 100 H	3.8 100	3.6F 110	3.7 130	3.7 120	4.3 110	3.2 110	3.8 100	6.6 100
19	4.2 100	4.3 100	5.5 100	3.1 100	2.5 110	G	3.8 120	5.3 110	4.2 110	4.6 110	5.4 100	5.0 100	4.2 110	4.2 110	7.4 100	4.7 110	4.2 110	5.6 110	6.1 110	6.4 110	9.0H (110)S	3.5 100	4.7 110	3.1 110
20	4.8 100	3.8 100	3.4 100	4.8 100	3.1 100	3.3 100 H	3.6 110	5.8 100	5.4 110	4.8 110	4.9 100	4.2 110	4.5 110	4.3F 100	4.4 110	4.5 100	3.9 (120)S	4.2 100 H	4.4 120	6.6 110	5.6 110	5.8 110	4.6 100	3.7 100
21	4.6 100	3.1 100	3.7 100	2.7 100	3.8 100	2.9 100	6.6 100	4.1 110	4.8 110	4.3 100 H	(5.5)S 100H	4.8 100	4.7 100	6.7 100	4.6 100	4.9 120	G	(3.3) 120 F	5.3 120	3.8 110	6.0 110	8.2 110	4.7 110	5.2 100
22	4.7 100	4.7 100	4.6 100	4.3 100	3.2 110	4.3 100	3.5 110	4.8 110	4.6 110	4.6 100	4.8 100	4.8 100	4.4 100	4.3 100	6.4 100 H	G	4.9 120	(3.6)S 120H	4.3 120	3.8 120	4.4 110	7.8Y 110	4.2 100	2.9Y 120
23	<1.6S S	<1.6S S	<1.6S S	<2.1S S	2.9 100	2.9 100	3.9 130	4.4 110	7.6Y 100H	4.4 110	4.1 100	4.0 100	4.9 110 H	G	6.0Y 120H	4.6 120	(3.5)S 130	7.8 120	4.3 120	3.1 120	4.7 110	3.6 110	<1.6S S	6.6 110
24	<1.6S S	4.3 100	4.0 100	4.4 100	3.2 100	4.7 100	4.3 120	8.0Y 100H	4.2 110	4.0 100	4.3 100	4.1 110	7.0 100 H	5.6 100	7.2 100 H	6.0 100	4.3 110 H	4.3 110	4.3 110	3.6 120	3.9 110	3.2 110	7.1 100	3.0F 110
25	4.8 100	3.8 100	<1.2S S	<1.8S S	<1.3S S	3.6 100	3.6 110	4.7 100	4.5 100	4.8 100	3.9 100	3.8 100	4.3 100	3.9 110	3.6 110 H	4.4 120 H	3.2 130	G	4.1 120	6.8 110	2.0 130	<1.6S S	3.0 110	3.7 110
26	3.5 110	3.0 110	4.1 100	4.8 100	4.0 100	G	3.6 110	3.8 110	5.0 100 H	8.8 100	8.8 100	4.3 110	4.9 100	3.8 110	4.0 130	5.5 120	11.0 120	5.6 110	7.2 110	4.0 110	4.4 110	4.1 110	3.8 110	<1.7S S
27	<1.6S S	<1.6S S	2.9 100	(3.3)S 130	3.3 110 H	4.3 110	4.9 100 H	3.7 110	4.6 110	8.8 100 H	9.0 100 H	3.6 110	G	4.4 100	5.4 100 H	3.8 100	4.9 100 H	4.9 100	4.1 100	4.0Y 110F	2.6 100	2.7 100	3.6 100	4.9 100
28	4.9 110	4.6 100	4.2 100	4.0 100	4.9 100 H	2.4 100	3.1 120	3.9 110	4.2 110	6.2 100	7.4 100 H	6.8Y 100	6.5 100	G	4.3 100	5.0 100	(5.0)S 100	4.1 100	3.3 100	3.9 100	3.1 100 H	2.8 100	4.2 110	4.7 110
29	4.0 110	4.8 100	4.2 100	4.2 100	2.9 100	2.4 120	(6.0)S 100	3.6 110	5.2 110	4.1 110	4.5 100	4.0 100	G	G	G	4.1 100 H	G	4.0 110 H	4.8 110	3.3 110	4.2 110	6.2 110	15.0 110	11.0 100
30	11.5 100	6.2 110	<1.6S S	(4.0)S 120	4.5 110	G	3.7 110	4.9 110 H	15.0 100	5.0 110	4.4 100	3.9 110	4.1 100	G	3.2 110	4.1 110	3.8 110	3.4 120	2.3 130	4.1 110	2.5 120	3.1 110	4.3 110	4.7 110
31	(3.7)S 100	4.8 100	4.9 100 H	7.0 110	7.2 110	3.1 110	4.8 110	4.0 110	5.4 100	7.6 110	10.0 100	8.4 100	6.3 100 H	6.5 100	4.3 100	4.3 100	5.0 100	3.5 110	3.9 120	4.0 110	3.8 110	3.5 100	5.6 110	5.8 100
Median	3.9	3.8	3.7	3.7	3.1	3.1	4.5	4.9	5.1	5.0	5.2	4.9	4.7	4.5	4.6	4.6	4.8	4.3	4.4	4.1	4.3	3.6	4.2	4.2
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

GPO 836048

TABLE 81

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

(M1500)F2, ______, July, 1955
(Characteristic) (Unit) (Month)

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.W.P., L.F.M., J.J.S.

Calculated by: E.J.W., N.B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.1F	2.1	22	22	22F	23F	22H	2.3	(2.3)S	1.9H	2.1	21H	2.2	2.1	2.1	20	21	1.9	2.1	(2.2)S	2.2	J.S	21	2.0
2	21	2.1	2.0	(2.1)FS	(2.1)S	2.1	24	20	2.4	18	20	2.0H	2.2	2.1H	1.9	1.9	1.8	19	2.0	21K	22K	23K	(26)SK	1.9FK
3	19K	2.0K	21K	22K	(20)SK	22FK	AK	K(2.1)FS	1.8	2.3	2.1	A	1.9	1.8	2.0	19	2.0	20	2.1	22	2.1	21	2.1	(21)PA
4	2.3F	(2.2)FS	(20)FS	FA	FS	23F	23F	1.9	24	19H	20	2.3	19	2.1	2.0	19	22	2.1	21	2.1	22	23	22F	2.1
5	2.0	19F	21F	22	23F	24	21H	22	22	23	20	21	21	21	2.1	19	22	21	20	21	2.1	22	2.1	21
6	2.1	22	2.2F	21	(20)FS	22	21H	1.8H	20	2.1	2.1	20H	2.0	1.7	20	1.8	19H	21	2.1	21	2.1	20	19K	1.9K
7	1.9K	19K	20K	2.1K	21K	21K	1.9HK	1.9K	1.9K	GK	17K	AK	AK	AK	1.9K	1.5K	18K	21K	21K	21K	2.1K	21K	JSK	19K
8	2.1K	22K	2.0K	21K	21	2.1	2.3	22	2.2	20	18	2.1	1.8	17	(19)S	1.8	20	A	2.1	22	2.1	20	2.0	2.1
9	21	1.9	2.1	2.0	20	23	21	(19)FS	21	A	A	A	A	A	A	1.9	20	20	21	2.1	21	20	(2.0)PS	(1.9)PS
10	1.9	(20)FS	(20)FS	A	A	(21)FS	1.9	20F	22F	A	18	23H	(17)AH	20	19	A	20F	2.0	A	A	2.1	20	2.0	19
11	2.2	22F	2.0	21F	2.0	20	1.9F	JS	1.6	19	18	A	1.8H	G	1.9	17	1.9	21FH	23	21F	1.9	19	19	22F
12	2.3F	20	21F	19	1.9	19	21	1.7	G	G	G	15K	1.7K	16K	15K	18K	19K	18FK	20K	20K	2.1K	2.1K	20	2.1F
13	19F	A	(21)FS	2.1F	1.9F	2.1F	A	1.7F	1.9	G	G	17	16	18	1.8	19	1.8	21	20	20	20	20	2.0	1.9
14	21	20	1.9	20	1.8	1.9H	G	JS	21H	(20)HS	A	A	17	19	1.9H	(19)HS	2.0	21	A	2.1	(21)S	(2.1)S	2.1	(21)PS
15	20	20	22F	21	20	22	23	23	22	21	21	19F	18	2.0	20	20	1.9	20	2.1	20	(2.1)PS	2.1	(20)S	(20)S
16	20	20F	20F	21F	21F	21	(2.5)S	22	17	23	22	A	(18)S	18H	18	20	A	21	(21)S	21	20	22	20	(2.0)S
17	2.0	(2.0)FA	(2.0)FS	2.1	2.2	22	(2.0)H	2.3	A	1.8	19	1.9	1.9	19	20	1.9	21	2.2	20	20	21	2.3	22	2.0
18	2.2F	20F	2.0F	2.1F	2.1F	2.2	23	24	A	18	19	19	A	19	21	21	21	21	21	2.1	22	2.0	(21)JS	(21)S
19	2.0	2.1	(20)SJ	22	(22)FS	23	22	20	1.9	21	2.1	19	1.9	2.1	A	2.1	21F	23	2.3	2.1	22	2.2	2.2	23
20	2.1F	1.9	20F	21F	2.2F	22F	22	23F	20	1.9	21	22	21	22	18	21	1.9	(21)S	2.1	(21)A	JS	21	22	(21)SJ
21	2.0	20	2.1	21	21	2.1	22	19	2.1	2.2	2.4	22H	20	A	2.0	21	2.0	2.0	21	21	23	A	21F	21
22	(20)A	21	(2.2)F	(21)SJ	21F	A	2.1	24	25	22	21	23	21	20	19	2.0H	20	2.3	23	21	20	(22)AJ	22	(2.2)SJ
23	22	2.1F	23	S	JS	A	G	2.1	2.2	24	20H	(1.9)H	23	21	(17)S	1.8	21	20	22	21	2.3	(2.3)S	22	(2.1)A
24	(21)PF	A	A	JA	A	A	25	(19)S	23	23	23	2.4	22F	20	22	20	20	23	23	2.3	23	23	A	22
25	20F	20F	21F	JS	22	24	G	G	20	24	19F	G	G	17	18K	20K	20K	21K	22K	23K	23K	23K	20FA	20K
26	22K	21	2.2F	2.2	20	23	1.9	(2.0)S	22	A	23	19	20	2.1	1.9	20	20	2.0	23	2.2	23	22	22F	2.1
27	22	22F	2.1F	2.1F	21F	22	G	2.1	19	2.3	19	2.3	17	2.1	22	22	22	22	23	22	24	23	22	A
28	A	A	A	A	22F	24F	23F	22	22	A	20	(21)S	21H	20	21	2.1	19	2.0	2.1	22	23	23	23	A
29	(2.1)FS	(1.9)FS	A	A	21F	23	22	2.1	AS	2.3	21	2.1	20	2.0	20	20	19	21	21	22	(23)S	24	A	A
30	A	(20)F	20F	(20)F	(19)FS	22	G	20	21	2.3	20	2.0	19	2.2	20	21	2.1	1.9	21	2.1	2.3	22	23	A
31	21	(19)FS	(20)FS	(19)FS	(21)FS	22F	23F	22	2.3	20	21	19	19	20	2.2	22	21	2.1	22	22	20	21	2.1	(2.2)SJ
Median	2.1	20	20	21	21	22	2.1	2.1	21	21	20	20	19	20	20	20	2.0	21	21	21	21	22	2.1	2.1
Count	29	28	28	24	27	28	29	29	28	27	29	25	28	28	29	30	30	30	29	30	30	29	28	27

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 82

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

(M3000)F2 (Characteristic) ____ (Unit) July (Month), 1955

Observed at Washington, D.C.

Lat 38.7°N, Long. 77.1°W

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.W.P., L.F.M., J.J.S.

Calculated by: E.J.W., N.B.

75°W Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.1 F	3.1	3.2	3.2	3.2 F	3.4 F	3.2 H	3.4	(3.4) S	2.9 H	3.2	3.2 H	3.2	3.1	3.1	3.0	3.1	2.9	3.1	(3.3) S	3.2	J S	3.1	3.0
2	3.1	3.1	3.0	(3.1) FS	(3.1) S	3.2	3.5	3.0	3.5	2.7	3.0	3.0 H	3.3	3.2 H	2.8	2.8	2.7	2.9	3.0	3.1 K	3.2 K	3.4 K	(3.7) SK	2.9 FK
3	2.9 K	3.0 K	3.1 K	3.2 K	(3.0) SK	3.3 FK	A K	h (3.1) FS	2.7	3.4	3.1	A	2.9	2.7	3.0	2.9	2.9	3.0	3.1	3.2	3.2	3.1	3.1	(3.2) PA
4	3.4 F	(3.2) FS	(3.0) FS	F A	F S	3.3 F	3.4 F	2.9	3.5	2.8 H	3.0	3.3	2.9	3.1	3.0	2.9	3.2	3.1	3.1	3.1	3.2	3.3	3.3 F	3.1
5	3.0	2.9 F	3.1 F	3.2	3.3 F	3.5	3.1 H	3.3	3.3	3.3	3.0	3.1	3.1	3.1	3.1	2.9	3.2	3.1	3.0	3.1	3.1	3.3	3.1	3.1
6	3.1	3.3	3.2 F	3.1	(3.0) FS	3.2	3.1 H	2.7 H	3.0	3.1	3.3	3.0 H	3.0	2.6	3.0	2.8	2.8 H	3.1	3.1	3.1	3.1	3.0	2.8 K	2.9 K
7	2.8 K	2.9 K	3.0 K	3.1 K	3.1 K	3.1 K	2.9 HK	2.8 K	2.8 K	G K	2.6 K	A K	A K	A K	2.8 K	2.3 K	2.8 K	3.1 K	3.1 K	3.1 K	3.1 K	3.1 K	J SK	2.9 K
8	3.1 K	3.2 K	3.0 K	3.1 K	3.1	3.1	3.4	3.3	3.3	3.0	2.8	3.1	2.7	2.6	(2.9) S	2.7	3.1	A	3.1	3.2	3.1	3.0	3.0	3.2
9	3.1	2.9	3.1	3.0	3.0	3.3	3.2	(2.9) FS	3.1	A	A	A	A	A	A	2.9	3.0	3.0	3.1	3.1	3.2	3.0	(3.0) PS	(2.9) PS
10	2.9	(3.0) FS	(3.0) FS	A	A	(3.2) FS	2.9	3.0 F	3.2 F	A	2.7	3.3 H	(2.6) AH	3.0	2.9	A	3.0 F	3.0	A	A	3.1	3.0	3.0	2.9
11	3.2	3.2 F	3.0	3.1 F	3.0	3.0	2.9 F	J S	2.4	2.8	2.8	A	2.8 H	G	2.8	2.6	2.9	3.1 FH	3.3	3.1 F	2.9	2.9	2.9	3.2 F
12	3.3 F	3.0	3.1 F	2.9	2.8	2.8	3.1	2.6	G	G	G	2.2 K	2.6 K	2.4 K	2.3 K	2.7 K	2.8 K	2.8 FK	3.0 K	3.0 K	3.1 K	3.1 K	3.0	3.1 F
13	2.9 F	A	(3.1) FS	3.1 F	2.9 F	3.1 F	A	2.6 F	2.9	G	G	2.6	2.5	2.7	2.8	2.8	2.7	3.1	3.0	3.0	3.0	3.0	3.0	2.9
14	3.1	3.0	2.9	3.0	2.7	2.9 H	G	J S	3.1 H	(3.0) HS	A	A	2.6	2.8	2.9 H	(2.8) HS	3.0	3.1	A	3.2	(3.1) S	(3.1) S	3.1	(3.2) PS
15	3.0	3.0	3.2 F	3.1	3.0	3.3	3.4	3.4	3.3	3.1	3.1	2.9 F	2.7	3.0	3.0	3.0	2.9	3.0	3.1	3.0	(3.1) PS	3.1	(3.0) S	(3.0) S
16	3.0	3.0 F	3.0 F	3.2 F	3.1 F	3.1	(3.6) S	3.3	2.6	3.4	3.3	A	(2.8) S	2.8 H	2.7	3.0	A	3.1	(3.1) S	3.1	3.0	3.2	3.0	(3.0) S
17	3.0	(3.0) FA	(3.0) FS	3.1	3.2	3.2	(2.9) H	3.4	A	2.7	2.9	2.9	2.9	2.8	3.0	2.9	3.1	3.3	3.0	3.0	3.1	3.3	3.3	3.0
18	3.3 F	3.0 F	3.0 F	3.1 F	3.1 F	3.2	3.4	3.4	A	2.7	2.9	2.8	A	2.9	3.1	3.1	3.1	3.2	3.1	3.1	3.2	3.0	(3.1) SJ	(3.1) S
19	3.0	3.1	(3.0) SJ	3.2	(3.2) FS	3.4	3.2	3.0	2.9	3.1	3.1	2.9	2.9	3.1	A	3.1	3.1 F	3.3	3.3	3.1	3.2	3.2	3.3	3.3
20	3.1 F	2.9	3.0 F	3.1 F	3.2 F	3.3 F	3.2	3.4 F	3.0	2.8	3.1	3.2	3.1	3.3	2.7	3.1	2.8	(3.1) S	3.1	(3.1) A	J S	3.1	3.1	(3.2) SJ
21	3.0	3.0	3.1	3.2	3.0	3.1	3.3	2.9	3.1	3.2	3.5	3.2 H	3.0	A	3.0	3.1	3.0	3.0	3.2	3.1	3.3	A	3.1 F	3.1
22	(3.1) A	3.1	(3.3) F	(3.1) SJ	3.1 F	A	3.1	3.5	3.5	3.3	3.1	3.4	3.1	3.0	2.9	3.0 H	3.0	3.4	3.4	3.2	3.0	(3.2) AJ	3.2	(3.2) SJ
23	3.2	3.1 F	3.3	S	J S	A	G	3.2	3.3	3.5	3.0 H	(2.9) H	3.3	3.1	(2.6) S	2.7	3.1	3.0	3.2	3.1	3.3	(3.4) S	3.2	(3.1) A
24	(3.1) PF	A	A	J A	A	A	3.5	(2.9) S	3.3	3.4	3.4	3.5	3.2 F	3.0	3.2	3.0	3.0	3.3	3.3	3.3	3.3	3.4	A	3.2
25	3.0 F	3.0 F	3.1 F	J S	3.3	3.4	G	G	3.0	3.5	2.9 F	G	G	2.6	2.7 K	3.0 K	3.0 K	3.1 K	3.2 K	3.3 K	3.4 K	3.4 K	3.0 FK	3.0 K
26	3.2 K	3.1	3.2 F	3.2	3.0	3.3	2.9	(3.0) S	3.2	A	3.4	2.9	3.0	3.1	2.9	3.0	3.0	3.0	3.3	3.3	3.4	3.2	3.2 F	3.1
27	3.2	3.3 F	3.1 F	3.1 F	3.1 F	3.2	G	3.1	2.9	3.3	2.9	3.3	2.6	3.1	3.2	3.2	3.2	3.2	3.3	3.2	3.4	3.4	3.2	A
28	A	A	A	A	3.3 F	3.5 F	3.3 F	3.2	3.3	A	3.0	(3.2) S	3.2 H	3.0	3.1	3.1	2.9	3.0	3.1	3.3	3.4	3.3	3.4	A
29	(3.1) FS	(2.9) FS	A	A	3.1 F	3.4	3.3	3.1	A S	3.4	3.2	3.1	3.0	3.0	3.0	3.0	2.9	3.1	3.1	3.2	(3.3) S	3.5	A	A
30	A	(3.0) F	3.0 F	(3.0) F	(2.9) FS	3.3	G	3.0	3.2	3.4	3.0	3.0	2.9	3.2	3.0	3.1	3.1	2.9	3.1	3.1	3.4	3.2	3.4	A
31	3.1	(2.9) FS	(3.0) FS	(2.9) FS	(3.1) FS	3.3 F	3.4 F	3.2	3.3	3.0	3.1	2.9	2.9	3.0	3.2	3.3	3.1	3.1	3.2	3.2	3.0	3.1	3.1	(3.2) SJ
Median	3.1	3.0	3.05	3.1	3.1	3.25	3.2	3.1	3.15	3.1	3.0	3.0	2.9	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.2	3.2	3.1	3.1
Count	29	28	28	24	27	28	29	29	28	27	29	25	28	28	29	30	30	30	29	30	30	29	28	27

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

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GPO 836048

TABLE 83

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

(M3000)F1 (Characteristic), ______ (Unit), July (Month), 1955

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.W.P., L.F.M., J.J.S.

Calculated by: E.J.W., N.B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						Q	L H	37 H	38 H	39 H	40	(39) A H	(43) H	39	(39) H	A	H	38	A	A				
2						Q	L	(39) A	(40) S	38	39	40	40	41	(41) H	37 H	38	38	38 H	L K				
3						Q K	A K	37 K	(36) A	38 H	42 H	40 H	40 H	40 H	39	39 H	38 H	A	(35) L H	A				
4						Q	L	37	36	38	A	42	41	41	41	38	36 H	36 H	37	L				
5						Q	L	38	37 H	38 H	39	39 H	39 H	39 H	38 H	40 F	40 H	39	39	L				
6						Q	L H	36	38	40	39	42	39 H	A H	40	38 H	38	35 H	35 H	A				
7						Q K	35 K	38 H K	40 K	39 K	41 H K	41 A K	A K	A K	39 H K	38 H K	38 H K	38 K	A K	A K				
8						Q	A	36 H	41 H	38 H	39	40 H	40 H	39 H	39	39	A	A	A	A				
9						A	A	38	A	A	A	A	A	A	A	A	A	36 H	36	L H				
10						A	36	38	40	A	40 H	42 H	A	40 F	A	A	39 H	37	A	A				
11						Q	34	38	36	A	38	A	39	F H	39 F	A	38 H	38 F	L H	L				
12						A	34	39 H	40	40	38	41 H K	39 K	39 H K	39 H K	38 H K	K 39 F H	K 40 F H	35 H K	L K				
13						Q	A	37 H	39	40 H	40 H	42	40	39 H	39 H	39 H	H	37 H	36	A				
14						Q	34 H	36 F	38 H	(38) H	39 H	A	40 H	41	39 H	41	37 H	A	A	A				
15						Q	L	L	38	38	40 H	A	39 H	41 H	38	37	A	A	A	A				
16						Q	A	(36) L	A	A	A	A	(38) A	38 H	A	39 H	A	35 H	L H	A				
17						Q	A	38 H	A	(39) S	(40) H	40 H	A	40	39	A	36 H	39	37	A				
18						Q	L	L H	A	39 H	A	38	A	A	38	38	37 H	36	(36) L	Q				
19						Q	L	A	37	37 H	A	40	41	40	A	40	38	A	A	A				
20						Q	38	A	36	38	A	39	40	41	40 H	39 H	(37) L	(36) L H	(37) L	A				
21						Q	Q	36	A H	38 H	42 H	A H	42 H	A	39 H	39 H	37 H	38 H	(35) L	L				
22						A	(36) L	37	38	40	40 F	38 H	41	40 H	41	38	38	(38) H	38	A				
23						Q	36	A	A	(40) H	43	(40) H	(41) F	(39) H	39	39	(39) S	37	37	L				
24						Q	A	A	36 H	39	42	41 H	42 H	41	A	39	37	36	L	Q				
25						Q	35	35 F	38	39	43	43	43 H	42 H	38 K	39 H K	40 K	39 H K	L K	Q K				
26						Q	37	39	41	A	A	43	A	40	40 H	42	38 H	38	37	Q				
27						Q	35 H	36	39 H	41	A	42	41 H	40 H	41	A	38	38 H	L	Q				
28						Q	L	38	37	A	A	41 H	42 H	41	39 H	38	(37) S	37 H	37	Q				
29						Q	L	38	39	39	38	40	39 H	39 H	39 H	39 H	37	35	36	Q				
30						Q	35	36 H	39	38	41	40 H	38	41 H	41	40	38	38	36	A.				
31						Q	L	37	37	39	39	40	40 H	A	41	42 H	A	37	37	Q				
Median							35	37	38	39	40	40	40	40	39	39	38	38	37	—	—			
Count							12	25	25	25	22	25	25	24	26	25	24	26	19	0	0			

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

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GPO 836048

Form adopted June 1946

TABLE 84

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

(M1500) E (Characteristic), ____ (Unit), July (Month), 1955

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.W.P., L.F.M., J.J.S.

Calculated by: E.J.W., N.B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						S	A H	A	A	A	A	A	A	(4.3) A	(4.5) H	4.3 H	4.3 H	4.3 H	(4.3) A	A				
2						S	A	(4.4) A	(4.3) A	(4.5) A	A	A	A	A	(4.3) H	4.3	4.3	A	A	S K				
3						S K	A K	A K	A	(4.3) A	A	A	A	A	A	A	(4.2) A	A	A	A				
4						S	A	A	(4.4) A	A	4.4	4.4 H	A	A	4.5	4.4	A	4.4	A	S				
5						S	A	4.5	A	A	A	A	4.5 H	4.4 H	A	A	A	A	A	A				
6						S	A	A	4.5	4.5	A	A	A	A	A	A	A	4.4	4.4	S				
7						S K	4.4 K	A K	A K	4.4 K	4.5 K	A K	A K	A K	A K	A K	4.4 K	A K	4.4 F K	A K				
8						S	A	A	A	A	A	A	A	A	A	A	A	(4.4) A	A	A				
9						S	A	(4.4) A	4.4	A	(4.4) S	A	A	A	A	A	A	(4.4) A	A	S				
10						S	A	A	4.5	A	A	A	A	A	A	A	A	A	A	A				
11						S	A	A	A	4.4	A	4.4	4.4	H	A	A	4.4	4.4 F	4.4	S				
12						S	4.4	4.5	4.5	4.5	4.5	A K	A K	A K	A K	4.4 H K	4.4 K	4.3 H K	4.3 K	S K				
13						S	4.5	4.5	4.3	4.3	4.4	A	A	A	4.5	4.3 H	4.4	A	4.3	S				
14						S	A	4.5 H	(4.4) A	4.3	4.5 H	A	4.4	4.4	4.4 H	A	(4.3) A	(4.2) A	(4.3) A	S				
15						S	A	A	A	4.2	4.3	(4.2) A	(4.2) A	4.3 H	(4.2) A	4.4 A	4.3	4.4 A	A	A				
16						S	A	A	4.4	(4.5) A H	A	A	A	(4.2) A	4.4	4.3 H	A	4.3	4.3 H	A				
17						S	(4.4) A	4.4 H	(4.5) A	A	A	A	A	A	4.3 H	4.3	(4.4) A	(4.4) A H	(4.4) H	A				
18						S	4.2	A	A	A	(4.5) A	A	A	A	A	A	4.4	4.5 F	4.3	A				
19						S	A	A	4.2	4.4	4.5	A	4.5	A	A	4.4	A	A	A	S				
20						S	(4.4)	4.5	A	A	(4.5) A	A	A	(4.3) A	A	A	4.4	4.3	4.3	S				
21						S	A	A	A	A	A	A	A	A	A	4.4 H	4.3 H	4.3 H	4.1	S				
22						A	A	(4.5) A	(4.4) A	A	A	A	A	A	A	4.3 H	4.0 H	(4.1) H	(3.9) H	S				
23						S	(4.6) H	(4.5) A	(4.4) A H	A	A	A	(4.4) H	(4.4) H	(4.5) H	4.3	(4.4) A	A	A	S				
24						S	A	A	A	A	A	A	A	4.5	A	A	A	A	A	S				
25						S	A	A	A	A	4.5	A	A	A	A K	4.4 K	A K	4.3 H K	4.3 K	S K				
26						S	A	A	A	A	A	A	A	A	4.3	4.4	4.4	A	4.4	S				
27						S	A	A	(4.5) A	A	A	A	4.4 H	A	A	A	A	A	A	S				
28						S	4.3	A	A	A	A	A	A	4.4	A	A	A	A	A	S				
29						S	A	A	A	A	A	A	4.3	4.3	(4.3) P	4.3 H	4.3 H	(4.3) A	4.4	S				
30						S	A	4.4	4.4	A	A	A	A	4.4	A	A	A	A	(4.5) P	S				
31						S	A	A	A	A	A	A	A	A	A	A	A	A	4.4	S				
Median						—	4.4	4.5	4.4	4.4	4.5	—	4.4	4.4	4.4	4.3	4.4	4.3	4.3	—				
Count							8	11	15	11	11	3	8	11	11	15	17	17	18					

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

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GPO 836048

Table 85

Ionospheric Storminess at Washington, D. C.

July 1955

Day	Ionospheric character* 00-12 GCT	Ionospheric character* 12-24 GCT	Principal storms Beginning GCT	Principal storms End GCT	Geomagnetic character** 00-12 GCT	Geomagnetic character** 12-24 GCT
1	2	3			2	1
2	2	3	1900	----	2	4
3	4	2	----	0700	3	2
4	2	2			2	1
5	1	1			1	2
6	1	1	2200	----	1	2
7	4	4	----	----	3	2
8	3	3	----	0300	3	3
9	2	3			2	2
10	2	1			2	3
11	1	3			3	3
12	1	4	1100	2100	3	3
13	3	3			2	2
14	2	3			2	2
15	1	2			1	4
16	1	2			3	2
17	2	2			3	2
18	2	1			3	1
19	1	2			1	1
20	2	1			1	1
21	0	1			1	1
22	3	2			1	1
23	1	2			2	3
24	3	2			3	2
25	3	4	1400	----	2	2
26	2	2	----	0000	3	3
27	3	2			2	1
28	3	2			1	1
29	3	2			2	2
30	3	2			2	2
31	3	1			2	2

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D. C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of Cheltenham, Maryland, geomagnetic K-figures on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

----Dashes indicate continuing storm.

Table 86a

Radio Propagation Quality Figures

(Including Comparisons with Short-Term and Advance Forecasts)

North Atlantic Path - June 1955

Day	North Atlantic 6-hourly quality figures 00 to 06	06 to 12	12 to 18	18 to 24	Short-term forecasts issued about one hour in advance of: 00	06	12	18	Whole day quality index	Advance forecasts (J-reports) for whole day; issued in advance by: 1-4 days	4-7 days	8-25 days	Geomagnetic K_{Ch} Half Day (1)	(2)
1	7	6	7	7	7	7	7	7	7	7	6		2	2
2	7	6	7	7	7	6	7	7	7	7	6		3	2
3	7	6	7	7	7	7	7	7	7	7	7		2	3
4	7	5	7	7	7	7	7	7	7	7	7		2	2
5	7	6	7	7	7	7	7	6	7	7	7		2	2
6	7	6	7	7	7	7	7	7	7	7	7		2	3
7	6	5	7	7	6	5	7	7	6	7	7		3	3
8	6	5	7	7	7	(4)	7	6	6	7	7		3	3
9	6	6	7	7	5	5	6	7	7	7	7		2	3
10	7	6	7	7	7	6	7	7	7	7	7		2	2
11	7	6	7	7	7	7	7	7	7	7	7		2	2
12	7	5	6	7	7	6	6	7	6	7	7		3	3
13	7	6	7	7	7	7	7	7	7	7	7		2	3
14	7	5	6	7	7	6	6	7	6	7	7		3	3
15	7	6	7	7	6	(4)	6	6	7	7	7		(4)	3
16	6	6	7	7	6	6	7	7	6	7	7		3	3
17	6	6	7	7	7	6	7	7	7	7	7		3	3
18	6	6	7	6	7	6	7	5	6	7	7		3	2
19	7	6	7	7	5	6	6	6	7	7	7		(4)	1
20	7	6	7	7	7	6	7	7	7	7	7		2	2
21	7	7	7	7	7	6	7	7	7	6	5		1	1
22	7	6	7	7	7	7	7	6	7	(4)	(4)	X	2	3
23	7	6	7	7	6	6	7	7	7	(4)	(4)	X	3	3
24	6	5	7	7	7	6	7	6	6	7	5		(4)	3
25	6	6	7	7	6	6	7	7	7	7	6		3	2
26	7	6	7	7	6	6	7	7	7	7	6		1	1
27	7	6	7	7	7	7	7	7	7	7	7		2	2
28	7	6	7	7	7	6	7	7	7	7	7		2	2
29	7	6	7	7	7	6	7	7	7	7	7		2	2
30	7	6	7	7	7	7	7	7	7	7	7		1	2

Score:

		00	06	12	18	1-4 days	4-7 days
Quiet Periods	P	21	13	27	23	20	16
	S	8	15	3	7	8	11
	U	1	1	0	0	0	1
	F	0	1	0	0	2	2
Disturbed Periods	P	0	0	0	0	0	0
	S	0	0	0	0	0	0
	U	0	0	0	0	0	0
	F	0	0	0	0	0	0

Scales:

Q-scale of Radio Propagation Quality
- (1) - useless
- (2) - very poor
- (3) - poor
- (4) - poor to fair
- 5 - fair
- 6 - fair to good
- 7 - good
- 8 - very good
- 9 - excellent

K-scale of Geomagnetic Activity
0 to 9, 9 representing the greatest disturbance; $K_{Ch} \geqslant 4$ indicates significant disturbance, enclosed in ( ) for emphasis

Scoring: (beginning October 1952)
- P - Perfect: forecast quality equal to observed
- S - Satisfactory: (beginning October 1952) forecast quality one grade different from observed
- U - Unsatisfactory: forecast quality two or more grades different from observed when both forecast and observed were $\geqslant 5$, or both $\leqslant 5$
- F - Failure: other times when forecast quality two or more grades different from observed

Symbols:
- X - probable disturbed date

Note: All times are UT (Universal Time or GCT)

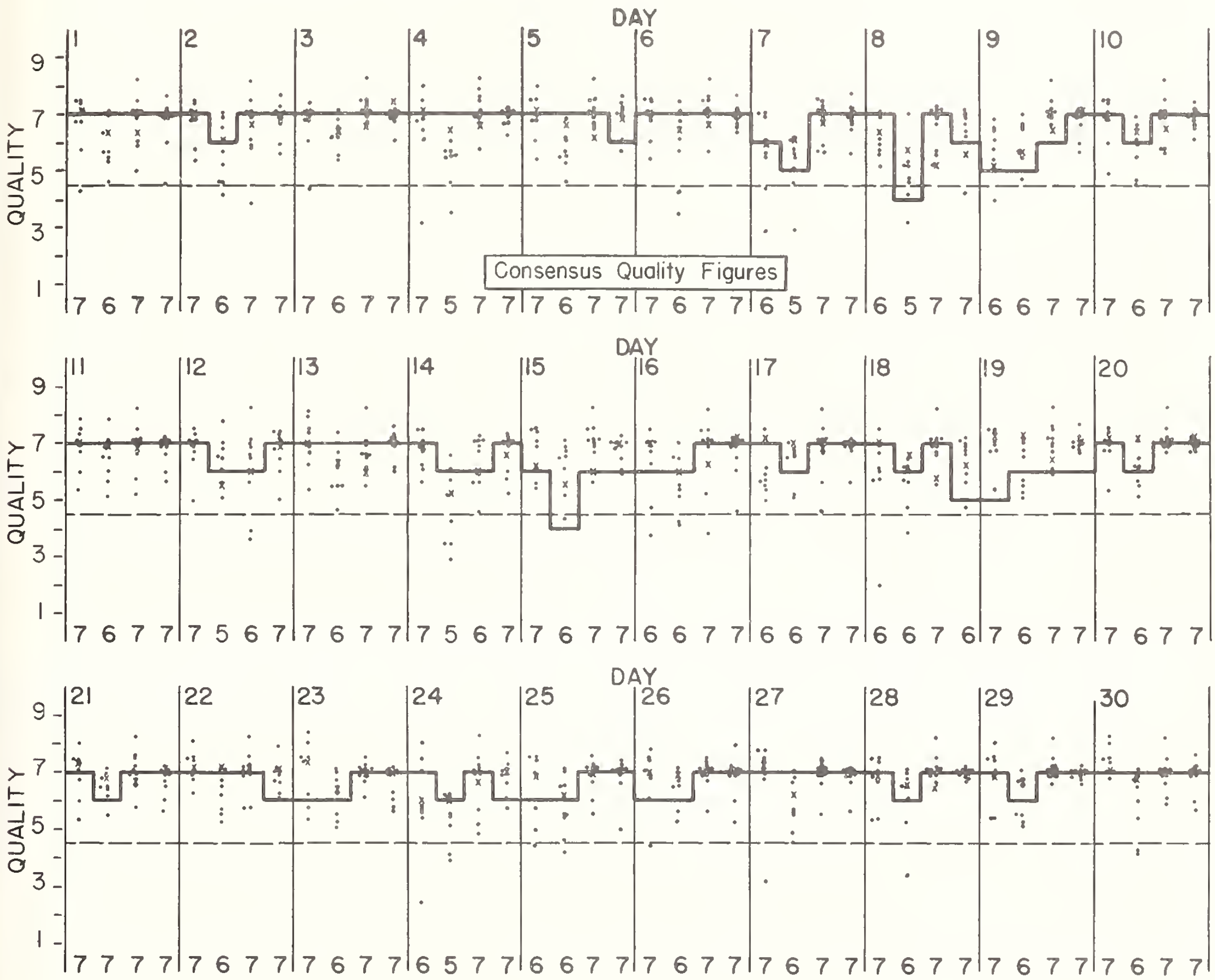
Table 86 b

Short-Term Forecasts — June 1955

— Forecast

× CRPL observation (not in consensus)

● Individual reports of quality (adjusted to CRPL scale)



Outcome of Advance Forecasts (1 to 4 Days Ahead) — June 1955

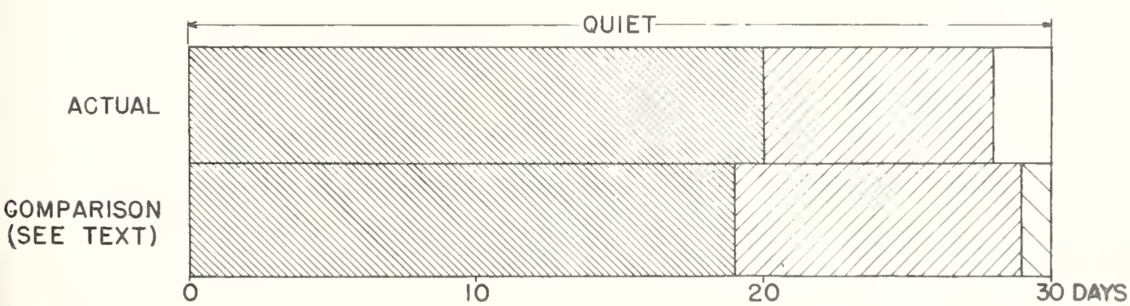


Table 87a

Coronal observations at Climax, Colorado (5303A), east limb

(Absolute values in millionths of the brightness of one angstrom at the center of the solar disk)

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
UT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1955																																					
Jul 1.6a	-	-	-	-	-	-	2	6	5	3	5	18	21	12	4	1	-	-	-	-	-	-	4	10	8	3	1	3	3	-	-	-	-	-	-	-	-
2.6	-	-	-	-	-	-	4	9	8	11	11	15	12	20	6	-	-	-	-	-	-	-	3	7	5	4	1	2	1	-	-	-	-	-	-	-	-
3.6	-	-	-	-	-	3	7	3	5	8	5	5	10	48	20	-	-	-	-	-	-	5	5	5	5	-	-	-	-	-	-	-	-	-	-	-	-
4.6a	-	-	-	-	-	-	-	10	10	10	10	10	40	60	20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	30	40	60	100	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.x																																					
7.6a	-	-	-	-	-	-	-	-	-	-	-	10	15	10	10	10	-	-	-	-	-	-	15	60	40	25	15	10	-	-	-	-	-	-	-	-	-
8.x																																					
9.x																																					
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29.x																																					
30.x																																					
31.x																																					

NOTE: The Climax, Colorado, station was unable to make coronal observations after July 7 due to installation of new equipment.

Table 88a

Coronal observations at Climax, Colorado (6374A), east limb

(Absolute values in millionths of the brightness of one angstrom at the center of the solar disk)

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
UT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1955																																					
Jul 1.6a	-	-	-	-	-	-	-	-	5	5	10	20	30	35	30	20	20	10	10	10	10	15	15	10	6	4	-	-	-	-	-	-	-	-	-	-	-
2.6	-	-	-	-	-	-	-	-	1	3	3	3	2	20	20	14	8	6	8	8	9	4	8	6	4	4	4	7	-	-	-	-	-	-	-	-	-
3.6	-	-	-	-	-	-	-	-	-	-	-	-	10	35	27	13	7	5	5	5	8	10	6	5	5	5	-	-	-	-	-	-	-	-	-	-	-
4.6a	-	-	-	-	-	-	-	-	-	-	-	-	10	25	15	10	5	-	-	-	-	-	5	5	5	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	-	10	20	50	70	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.x																																					
7.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	40	15	10	-	-	-	-	-	-	-	-	-	-	-
8.x																																					
9.x																																					
10.x																																					
11.x																																					
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28.x																																					
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30.x																																					
31.x																																					

Table 87b
Coronal observations at Climax, Colorado (5303A), west limb
(Absolute values in millionths of the brightness of one angstrom at the center of the solar disk)

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
UT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1955																																					
Jul 1.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	-	-	-	-	-	-	-	-	-	-	-
2.6	-	-	-	-	-	-	-	-	1	2	2	5	1	-	-	-	-	-	-	-	-	-	-	8	22	15	4	4	2	2	-	-	-	-	-	-	-
3.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	15	5	-	-	-	-	-	-	-	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.x																																					
7.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.x																																					
9.x																																					
10.x																																					
11.x																																					
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30.x																																					
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Table 88b
Coronal observations at Climax, Colorado (6374A), west limb
(Absolute values in millionths of the brightness of one angstrom at the center of the solar disk)

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
UT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1955																																					
Jul 1.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	5	3	3	3	3	3	3	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-
2.6	-	-	-	-	-	-	-	2	2	2	2	2	4	4	6	3	5	5	6	5	4	2	1	1	6	2	-	-	-	-	-	-	-	-	-	-	-
3.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.x																																					
7.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.x																																					
9.x																																					
10.x																																					
11.x																																					
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13.x																																					
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29.x																																					
30.x																																					
31.x																																					

Table 89a
Coronal observations at Climax, Colorado (6702A), east limb
(Absolute values in millionths of the brightness of one angstrom at the center of the solar disk)

Date UT	N 90	N 85	N 80	N 75	N 70	N 65	N 60	N 55	N 50	N 45	N 40	N 35	N 30	N 25	N 20	N 15	N 10	N 5	0°	S 5	S 10	S 15	S 20	S 25	S 30	S 35	S 40	S 45	S 50	S 55	S 60	S 65	S 70	S 75	S 80	S 85	S 90
1955																																					
Jul 1.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.6	-	-	-	-	-	-	-	-	-	-	-	-	2	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.x																																					
7.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.x																																					
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27.x																																					
28.x																																					
29.x																																					
30.x																																					
31.x																																					

Table 90a
Coronal observations at Sacramento Peak, New Mexico, (5303A), east limb
(Arbitrary Scale)

Date UT	N 90	N 85	N 80	N 75	N 70	N 65	N 60	N 55	N 50	N 45	N 40	N 35	N 30	N 25	N 20	N 15	N 10	N 5	0°	S 5	S 10	S 15	S 20	S 25	S 30	S 35	S 40	S 45	S 50	S 55	S 60	S 65	S 70	S 75	S 80	S 85	S 90
1955																																					
Jul 1.7a	2	-	2	-	-	-	-	3	4	3	5	13	23	20	11	5	6	3	2	-	-	2	3	18	14	11	10	9	8	5	6	5	4	4	3	2	-
2.x																																					
3.x																																					
4.x																																					
5.x																																					
6.7a	-	2	3	3	3	4	4	5	5	11	14	20	23	39	36	18	11	8	3	2	3	8	16	20	28	18	11	10	8	7	5	4	5	4	4	2	-
7.x																																					
8.8a	-	-	-	-	-	2	3	4	5	7	9	11	14	18	17	12	5	4	3	2	2	3	8	16	28	22	16	8	5	2	2	2	3	2	-	-	-
9.x																																					
10.6	-	-	2	4	5	6	11	12	23	25	23	28	42	50	48	39	16	3	2	-	-	2	3	4	8	16	20	27	11	14	13	12	5	3	2	-	-
11.x																																					
12.x																																					
13.6	-	-	-	2	3	5	11	11	11	12	12	13	16	20	12	5	3	2	-	-	-	-	-	-	2	3	5	6	5	4	2	3	4	3	-	-	-
14.6a	-	-	-	-	3	4	4	5	5	4	4	5	8	9	8	5	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.x																																					
16.7a	-	-	-	-	3	4	5	5	4	4	5	6	12	13	11	5	4	3	-	-	-	-	-	-	-	2	3	4	3	2	-	-	-	-	-	-	-
17.x																																					
18.x																																					
19.x																																					
20.x																																					
21.x																																					
22.x																																					
23.9a	-	-	-	-	-	-	-	-	-	-	2	3	5	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.x																																					
25.x																																					
26.x																																					
27.x																																					
28.x																																					
29.x																																					
30.6	-	-	-	-	2	4	8	13	14	16	17	39	41	44	47	32	13	3	2	2	5	6	15	36	32	20	14	13	14	14	11	11	5	3	-	-	-
31.x																																					

Table 89b
Coronal observations at Climax, Colorado (6702A), west limb
(Absolute values in millionths of the brightness of one angstrom at the center of the solar disk)

Date UT	Degrees south of the solar equator 90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5	0°	Degrees north of the solar equator 5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1955																																					
Jul 1.																																					
2.																																					
3.																																					
4.																																					
5.	6702A coronal line was not visible at the west limb																																				
6.x	at any of the observation dates in July.																																				
7.																																					
8.x																																					
9.x																																					
10.x																																					
11.x																																					
12.x																																					
13.x																																					
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24.x																																					
25.x																																					
26.x																																					
27.x																																					
28.x																																					
29.x																																					
30.x																																					
31.x																																					

Table 90b
Coronal observations at Sacramento Peak, New Mexico (5303A), west limb
(Arbitrary Scale)

Date UT	Degrees south of the solar equator 90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5	0°	Degrees north of the solar equator 5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1955																																					
Jul 1.7a	-	-	-	-	-	-	-	-	-	-	2	3	5	4	2	-	-	-	-	-	-	-	3	5	11	13	11	7	6	5	4	4	5	7	8	3	2
2.x																																					
3.x																																					
4.x																																					
5.x																																					
6.7a	-	-	-	-	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-	-	-	-	-	2	3	3	5	8	9	7	5	3	2	2	2	-	-
7.x																																					
8.8a	-	-	-	-	-	-	-	-	-	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	2	3	5	4	3	4	2	2	-	-	-	-	-
9.x																																					
10.6	-	-	-	-	-	2	5	6	7	8	23	39	36	28	14	5	-	-	-	-	-	3	3	3	2	3	4	5	6	6	8	6	4	2	2	-	-
11.x																																					
12.x																																					
13.6	-	-	-	-	-	3	4	6	5	4	5	16	20	11	5	4	3	2	2	2	3	5	8	10	16	20	17	8	5	5	4	3	5	3	2	-	-
14.6a	-	-	-	-	-	2	3	3	5	5	6	6	7	8	7	5	6	5	3	2	-	-	5	5	8	14	20	16	8	5	6	6	4	3	-	-	-
15.x																																					
16.7a	-	-	-	-	-	2	3	4	5	5	6	7	8	8	6	5	5	3	2	2	3	3	4	11	14	20	25	18	16	14	11	12	8	2	-	-	-
17.x																																					
18.x																																					
19.x																																					
20.x																																					
21.x																																					
22.x																																					
23.9a	-	-	-	-	-	-	-	-	-	2	3	5	8	14	23	20	3	2	2	-	-	2	4	11	13	11	12	9	3	3	2	-	-	-	-	-	-
24.x																																					
25.x																																					
26.x																																					
27.x																																					
28.x																																					
29.x																																					
30.6	-	-	-	-	-	-	-	-	-	2	3	4	5	8	3	2	-	-	-	-	2	2	5	8	10	11	12	11	6	6	7	8	5	5	3	-	-
31.x																																					

Table 91a
Coronal observations at Sacramento Peak, New Mexico (6374A), east limb
(Arbitrary Scale)

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
UT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1955																																					
Jul 1.7a	2	2	2	-	3	2	2	3	3	2	3	4	8	14	18	12	11	9	8	5	7	8	16	9	8	7	8	4	5	3	2	2	-	-	-	2	3
2.x																																					
3.x																																					
4.x																																					
5.x																																					
6.7a	2	-	2	2	2	2	2	2	3	3	4	8	18	19	16	11	4	5	5	11	10	8	12	15	14	5	3	2	2	2	3	2	2	2	-	2	3
7.x																																					
8.8a	2	-	2	3	2	2	2	-	-	3	2	2	3	14	4	7	4	3	4	5	4	5	6	12	10	4	2	2	3	4	2	-	-	-	-	-	-
9.x																																					
10.6	3	3	3	2	3	3	3	2	3	2	2	3	5	23	28	14	15	16	14	12	11	10	11	8	8	12	7	4	3	3	4	4	3	3	4	4	2
11.x																																					
12.x																																					
13.6	2	4	2	2	3	3	2	2	3	3	3	3	4	6	6	7	8	8	9	10	11	13	14	11	8	4	2	3	3	3	2	3	2	3	3	2	2
14.6a	-	2	2	2	-	2	2	2	2	3	3	-	3	3	4	5	3	4	5	5	7	8	5	5	5	3	2	-	3	4	4	-	2	2	3	3	2
15.x																																					
16.7a	2	-	3	3	2	3	2	3	3	3	3	2	3	3	4	2	3	5	5	6	8	11	8	7	6	5	3	2	2	2	3	3	-	2	2	2	3
17.x																																					
18.x																																					
19.x																																					
20.x																																					
21.x																																					
22.x																																					
23.9a	-	-	-	-	-	-	-	-	-	-	2	2	2	3	3	3	2	2	3	3	4	5	6	3	3	2	2	2	-	-	2	-	-	-	-	-	-
24.x																																					
25.x																																					
26.x																																					
27.x																																					
28.x																																					
29.x																																					
30.6	3	4	5	6	4	3	2	2	3	3	3	4	5	8	14	16	15	14	15	18	18	20	32	36	40	12	8	5	4	3	2	3	3	3	4	5	4
31.x																																					

Table 92a
Coronal observations at Sacramento Peak, New Mexico (6702A), east limb
(Arbitrary Scale)

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
UT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1955																																					
Jul 1.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.x																																					
3.x																																					
4.x																																					
5.x																																					
6.7a	-	-	-	-	-	-	-	-	-	-	2	2	2	3	3	2	-	-	-	-	-	-	2	4	4	4	2	2	-	-	-	-	-	-	-	-	-
7.x																																					
8.8a	-	-	-	-	-	-	-	-	-	-	-	2	2	3	3	2	-	-	-	-	-	-	2	3	4	5	4	-	-	-	-	-	-	-	-	-	-
9.x																																					
10.6	-	-	-	-	-	-	-	-	-	-	-	2	3	5	4	3	-	-	-	-	-	-	-	-	-	-	2	3	2	-	-	-	-	-	-	-	-
11.x																																					
12.x																																					
13.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.x																																					
16.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.x																																					
18.x																																					
19.x																																					
20.x																																					
21.x																																					
22.x																																					
23.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.x																																					
25.x																																					
26.x																																					
27.x																																					
28.x																																					
29.x																																					
30.6	-	-	-	-	-	-	-	-	-	-	-	2	4	5	5	2	-	-	-	-	-	-	2	3	3	2	-	-	-	-	-	-	-	-	-	-	-
31.x																																					

Table 91b
Coronal observations at Sacramento Peak, New Mexico (6374A), west limb
(Arbitrary Scale)

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
UT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1955																																					
Jul 1.7a	3	2	3	2	3	3	2	2	3	3	2	-	-	3	5	8	5	6	8	7	8	5	3	2	3	4	2	-	-	2	3	2	2	2	-	2	2
2.x																																					
3.x																																					
4.x																																					
5.x																																					
6.7a	3	3	4	5	5	2	2	3	3	3	3	4	5	8	8	7	7	5	7	11	7	6	6	5	4	3	2	-	2	2	3	3	2	2	3	2	2
7.x																																					
8.8a	-	-	-	-	-	-	-	-	2	3	5	4	5	6	7	6	7	8	7	5	4	4	5	5	6	7	5	2	2	2	-	2	2	-	-	2	2
9.x																																					
10.6	2	3	4	4	5	4	2	3	2	3	8	14	23	20	16	11	14	13	12	12	11	8	8	8	11	12	14	12	7	5	5	4	3	2	2	3	3
11.x																																					
12.x																																					
13.6	2	2	2	2	2	2	-	-	2	3	2	5	8	14	10	7	8	7	8	8	6	4	3	11	16	20	8	3	3	3	2	3	3	2	3	3	2
14.6a	2	-	3	2	2	-	-	-	-	-	-	2	3	5	5	4	5	4	6	7	8	5	4	8	11	16	17	3	-	-	-	-	-	-	-	-	-
15.x																																					
16.7a	3	3	3	2	3	2	-	-	2	2	2	3	3	3	4	3	4	5	8	9	7	8	11	18	26	12	10	11	7	3	3	2	3	3	3	-	2
17.x																																					
18.x																																					
19.x																																					
20.x																																					
21.x																																					
22.x																																					
23.9a	-	-	-	-	-	-	-	-	-	2	2	-	3	5	8	12	6	5	5	6	8	5	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-
24.x																																					
25.x																																					
26.x																																					
27.x																																					
28.x																																					
29.x																																					
30.6	4	4	4	3	3	3	3	3	4	5	5	4	8	3	8	7	8	10	12	13	11	10	8	3	6	5	4	5	5	5	2	2	2	2	2	3	3
31.x																																					

Table 92b
Coronal observations at Sacramento Peak, New Mexico (6702A), west limb
(Arbitrary Scale)

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
UT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1955																																					
Jul 1.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.x																																					
3.x																																					
4.x																																					
5.x																																					
6.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.x																																					
8.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.x																																					
10.6	-	-	-	-	-	-	-	-	-	-	2	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.x																																					
12.x																																					
13.6	-	-	-	-	-	-	-	-	-	-	-	2	3	2	-	-	-	-	-	-	-	-	-	-	2	3	2	-	-	-	-	-	-	-	-	-	-
14.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	2	-	-	-	-	-	-	-	-
15.x																																					
16.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	3	2	-	-	-	-	-	-	-	-	-
17.x																																					
18.x																																					
19.x																																					
20.x																																					
21.x																																					
22.x																																					
23.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.x																																					
25.x																																					
26.x																																					
27.x																																					
28.x																																					
29.x																																					
30.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.x																																					

Table 93:

Zürich Provisional Relative Sunspot Numbers

June 1955

Date	R_Z*	Date	R_Z*
1	26	17	74
2	17	18	71
3	13	19	67
4	22	20	74
5	25	21	55
6	33	22	38
7	26	23	15
8	23	24	0
9	24	25	0
10	27	26	0
11	48	27	0
12	46	28	8
13	40	29	11
14	63	30	23
15	56	Mean:	33.1
16	69		

*Dependent on observations at Zürich Observatory and its stations at Locarno and Arosa.

Table 94

Zürich Provisional Relative Sunspot Numbers

July 1955

Date	R_Z*	Date	R_Z*
1	35	17	20
2	38	18	7
3	38	19	26
4	43	20	32
5	48	21	11
6	60	22	9
7	47	23	0
8	47	24	0
9	39	25	8
10	41	26	0
11	35	27	11
12	25	28	12
13	25	29	16
14	37	30	20
15	29	31	26
16	22	Mean:	26.0

*Dependent on observations at Zürich Observatory and its stations at Locarno and Arosa.

Table 95

American Relative Sunspot Numbers

June 1955

Date	$R_{A'}$	Date	$R_{A'}$
1	15	17	48
2	16	18	49
3	9	19	51
4	16	20	53
5	19	21	34
6	20	22	21
7	20	23	9
8	18	24	0
9	18	25	0
10	23	26	0
11	40	27	0
12	32	28	6
13	33	29	12
14	36	30	18
15	34	Mean:	23.4
16	51		

Table 96

Solar Flares-July 1955

Observatory	Date 1955	Time Observed Beginning (GCT)	Time Observed Ending (GCT)	Duration (Min)	Area (Mill.) (of) (Visible) (Hemisph)	Position Latitude (Deg)	Position Longitude Diff (Deg)	Time of Maximum (GCT)	Int. of Maximum	Relative Area of Maximum (Tenths)	Importance	SID Observed
S. Peak	July 1	1320	1330A	-	13	N30	E70	1327	13	0.6	1-	
McMath	July 1	1415B	-	-	-	N34	E75	-	-	-	1-	
McMath	July 1	1505	1518	13	-	N34	E75	-	-	-	1-	
S. Peak	July 1	1610B	1640	-	42	N31	E70	1610	10	0.5	1-	
S. Peak	July 1	1640	1715	75	26	N31	E66	1700	12	0.7	1-	
S. Peak	July 1	1745	1755	10	16	N30	E69	1746	9	0.8	1-	
S. Peak	July 1	1755	1810	55	13	N31	E63	1800	12	0.6	1-	
S. Peak	July 1	1816	1905	89	19	N31	E64	1830	11	0.5	1-	
S. Peak	July 1	1940	2012	72	13	N30	E63	1958	15	0.8	1-	
McMath	July 1	1957	2015	58	-	N34	E75	-	-	-	1-	
S. Peak	July 1	2036	2054	18	11	N31	E62	2038	12	0.7	1-	
S. Peak	July 1	2129	2243	114	26	N30	E61	2211	18	0.8	1-	
McMath	July 1	1932	1950	18	-	S32	E46	-	-	-	1-	
S. Peak	July 1	2057	2111	54	16	S32	E42	2100	14	0.7	1-	
S. Peak	July 2	1846	1852	6	32	N33	E48	1848	9	0.8	1-	
S. Peak	July 2	1918	1929	11	65	N33	E47	1921	10	0.5	1-	
S. Peak	July 2	1932	1947	15	26	N29	E54	1940	13	0.6	1-	
S. Peak	July 3	1656	1728A	-	65	N34	E43	1705	12	0.2	1-	
McMath	July 4	1547	1605	58	-	N25	E85	-	-	-	1	Yes
S. Peak	July 4	1556B	1612	-	36	N27	E80	1557	15	0.4	1-	
S. Peak	July 4	2319B	2355A	-	88	S34	E05	2322	23	0.3	1	
S. Peak	July 5	1531	1559	28	52	S35	W06	1542	14	0.6	1-	
S. Peak	July 6	1315	1440	125	29	S34	W16	1328	11	0.5	1-	
S. Peak	July 6	1750	1837	87	23	S32	W20	1753	12	0.8	1-	

(Over)

Table 96 (Cont'd.)

Solar Flares-July 1955

Observatory	Date 1955	Time Observed Beginning (GCT)	Time Observed Ending (GCT)	Duration (Min)	Area (Mill.) (of) (Visible) (Hemisph)	Position Latitude (Deg)	Position Longitude Diff (Deg)	Time of Maximum (GCT)	Int. of Maximum	Relative Area of Maximum (Tenths)	Importance	SID Observed
S. Peak	July 6	1923	1945	22	39	S33	W20	1928	11	0.4	1-	
S. Peak	July 6	1433	1506	73	33	N28	E56	1446	10	0.6	1-	
S. Peak	July 6	1520	1534	14	12	N30	W04	1527	10	0.9	1-	
S. Peak	July 6	1543	1601	58	29	N25	E55	1553	12	0.7	1-	
S. Peak	July 6	1613	1636	23	26	N30	W04	1616	12	0.4	1-	
S. Peak	July 6	1938	1950	12	23	N25	E55	1942	14	0.8	1-	
S. Peak	July 6	2035	2044	9	29	N25	E55	2040B	12	0.7	1-	
S. Peak	July 8	2325	2335A	-	110	N29	W33	2330	15	0.6	1-	
McMath	July 9	1230	-	-	-	N31	W40	-	-	-	1-	
S. Peak	July 9	1400	1515	115	150	S32	W56	1412	18	0.5	1	
McMath	July 9	1415	1525	110	-	S35	W55	1425	-	-	2-	
S. Peak	July 18	1915A	1929	-	10	S22	W52	1920	14	0.9	1-	
S. Peak	July 18	1935	1945	10	37	S22	W52	1937	12	0.6	1-	
S. Peak	July 18	2030	2040	10	35	S22	W52	2032	11	0.5	1-	
S. Peak	July 18	2110	2130	20	13	S22	W52	2120	12	0.8	1-	
S. Peak	July 18	2155	2250	95	65	S22	W52	2203	12	0.5	1-	
McMath	July 20	1315B	-	-	-	S25	W40	-	-	-	1	
McMath	July 21	1817B	-	-	-	S25	W60	-	-	-	1-	
S. Peak	July 25	1535	1605	70	16	S26	W70	1542	10	0.8	1-	
S. Peak	July 26	1525B	1610	-	70	N22	E82	1540	15	0.5	1-	

S. Peak = Sacramento Peak. B = Before given time. A = After given time.

Revised data for June 1955: McMath flares for June 19 at 1420-1438 and 1450-1513 should be imp. 1.
McMath reports an additional flare June 18 at 1552-1620, S22 W15, imp. 1-.

Table 97

Indices of Geomagnetic Activity for June 1955

Preliminary values of international character-figures, C;
Geomagnetic planetary three-hour-range indices, Kp;
Daily "equivalent amplitude", Ap;
Magnetically selected quiet and disturbed days

June 1955	C	Values Kp Three-hour Gr. interval 1 2 3 4	Values Kp Three-hour Gr. interval 5 6 7 8	Sum	Ap	Final Selected Days
1	0.5	2- 2+ 2- 1o	3- 3- 1+ 1o	14+	7	Five
2	0.3	2o 1+ 2+ 2-	2+ 1+ 1+ 2-	14o	6	Quiet
3	0.3	1o 2- 1+ 1o	1o 2o 2+ 2-	12o	6	
4	0.5	1+ 2- 3o 2o	2+ 2- 2- 1+	15o	7	5
5	0.1	1o 0+ 1o 2-	1+ 2- 2- 1-	9+	4	10
						21
6	0.8	0+ 1- 1+ 1o	2- 2+ 4o 4o	15+	7	26
7	0.8	3+ 3o 2o 3-	3- 2o 1o 3+	20o	12	30
8	1.2	3o 5o 3o 3-	4o 5- 2+ 4-	28+	23	
9	0.5	0+ 2- 2+ 2+	3- 1+ 2o 3-	15+	8	
10	0.1	2- 1o 2- 2-	1o 1+ 1o 1-	10o	5	
11	0.4	0+ 1- 1+ 2o	2o 2- 2- 3o	13-	6	Five
12	0.6	2+ 3o 2+ 3-	3+ 1- 1+ 2+	18o	10	Disturbed
13	0.6	1+ 1- 2+ 1+	3+ 3- 2o 2+	16o	8	
14	0.8	2- 2o 3o 4+	4- 3+ 2+ 1o	21+	14	8
15	0.9	4- 4- 4+ 4-	3o 2+ 3o 3+	27o	19	15
						16
16	0.9	4o 3o 3o 4-	4- 3- 1+ 2o	23+	16	23
17	0.7	2+ 2+ 3- 4-	3- 3- 2- 3o	21o	12	24
18	0.3	1+ 3- 3- 3-	1o 1+ 1+ 2-	15-	8	
19	0.5	3+ 3+ 2+ 2o	2o 2- 1o 1-	16+	9	
20	0.4	1o 1o 1+ 1o	1+ 3o 2- 1o	11+	6	
21	0.1	2o 1- 1- 1-	1o 1o 1o 1o	8o	4	Ten
22	0.8	1+ 1- 0+ 3+	3- 3o 2+ 3-	16+	10	Quiet
23	1.1	3+ 3+ 3o 2-	2o 2o 5- 4o	24o	17	
24	1.1	4o 3+ 4o 4-	4- 2+ 2+ 3-	26o	18	3
25	0.7	3o 2- 4- 3+	3- 1+ 3- 1o	19+	12	5
						10
26	0.2	1o 2- 0+ 1-	1- 1o 1- 2-	8-	4	11
27	0.2	1+ 1+ 2o 2-	1+ 2o 2o 1-	12+	6	20
28	0.4	2- 3- 1o 2-	2- 1o 1o 3-	13+	7	21
29	0.3	2- 1- 1+ 2o	2o 1+ 2+ 1o	12+	6	26
30	0.0	2o 1o 1- 1-	0+ 1- 1- 1-	7-	4	27
						29
Mean:	0.54			Mean:	8	30

Table 98

Sudden Ionosphere Disturbances Observed at Washington, D. C.

1955 Day	GCT		Location of transmitters	Relative intensity at minimum*	Other phenomena
	Beginning	End			
June 13	1312	1340	Ohio, England, Mexico, North Dakota	0.2	
July 4	1550	1605	Ohio, England, Mexico, North Dakota	0.05	Solar flare** 1547 Solar flare*** before 1556

*Ratio of received field intensity during SID to average field intensity before and after, for station KQ2XAU (formerly W8XAL), 6080 kilocycles, 600 kilometers distant.

**Time of observation at McMath-Hulbert Observatory, Pontiac, Michigan.

***Time of observation at Sacramento Peak, New Mexico.

Table 99

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief, Cable and Wireless, Ltd., as Observed in England

1955 Day	GCT		Receiving station	Location of transmitters
	Beginning	End		
July 4	0940	0955	Brentwood	Austria, Belgian Congo, Barbados, Brazil, Canary Islands, Greece, Iran, Iraq, Kenya, Malta, New York, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, Yugoslavia, Zanzibar

Table 100

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief, Cable and Wireless, Ltd., as Observed in Australia

1955 Day	GCT Beginning	End	Receiving station	Location of transmitters	Other phenomena
June 18	1907	1922	Somerton	New York	Solar flare* 1906
July 4	0940	0955	Somerton	China, Egypt, Formosa, India, Iran, Pakistan	

*Time of observation at McMath-Hulbert Observatory, Pontiac, Michigan.

Table 101

Sudden Ionosphere Disturbances Reported by RCA Communications, Inc., as Observed at Riverhead, New York

1955 Day	GCT Beginning	End	Location of transmitters	Other phenomena
June 9	1530	1548	England, Brussels, Tangier	
13	1308*	1346	England, Brussels, Tangier	
18	1228	1248	England, Brussels, Tangier	Solar flare** 1226
18	1905	1931	England, Brussels, Tangier	Solar flare** 1906

*Signals begin dropping at 1253.
**Time of observation at McMath-Hulbert Observatory, Pontiac, Michigan.

Table 102

Sudden Ionosphere Disturbances as Observed at Enköping, Sweden

1955 Day	GCT Beginning	GCT End	Location of transmitters
June 18	1915	1920	Buenos Aires, Lima, Washington

Table 103

Sudden Ionosphere Disturbances Reported by the Netherlands Postal and Telecommunication Services, as Observed at Nederhorst den Berg, Netherlands

1955 Day	GCT Beginning	GCT End	Location of transmitters	Other phenomena
May 27	1011.5	1045	Karachi, Paramaribo	Reinforcement (of atmospheric long-wave noise) 1014-1121
	1544.5	1620	Paramaribo	Reinforcement 1545-1656
June 13	1312.5	1355	Karachi, Paramaribo, Washington	Reinforcement 1313-1415
14	0855.5	0945	Karachi, Paramaribo	Reinforcement 0900-0951
17	1055.5	1121	Karachi, Paramaribo	Reinforcement 1057-1131
18	1225	1321	Karachi, Cairo, Tangier, Rio de Janeiro, Buenos Aires, Paramaribo, Curacao, Washington, New York, Karlsberg	Reinforcement 1224-1324
	1906	1930	Buenos Aires, Paramaribo, Lima, Curacao, Washington, New York	Reinforcement 1907-1945

Note: Observers are invited to send to the CRPL information on times of beginning and end of sudden ionosphere disturbances for publication as above. Address letters to the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder, Colorado; Attention: Mr. Vaughn Agy.

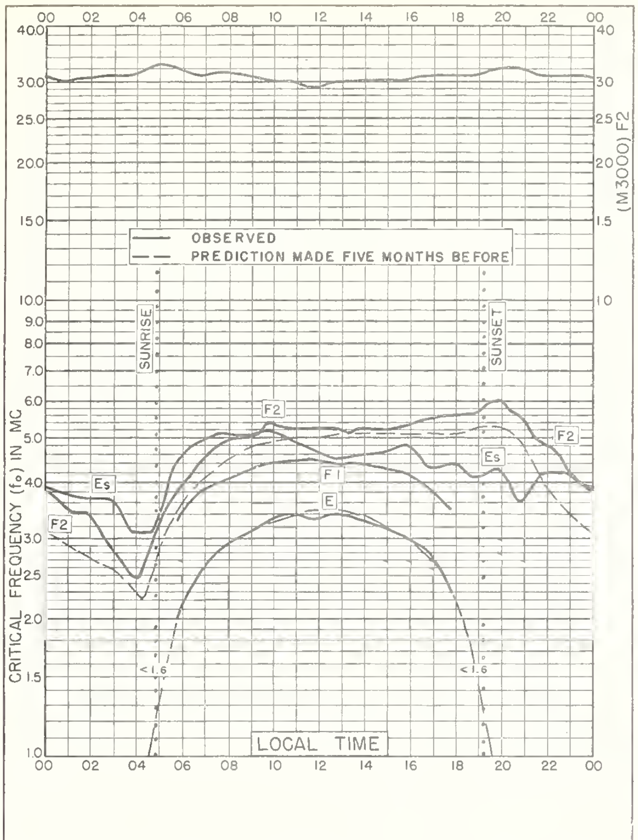


Fig. 1. WASHINGTON, D. C.
38.7°N, 77.1°W JULY 1955

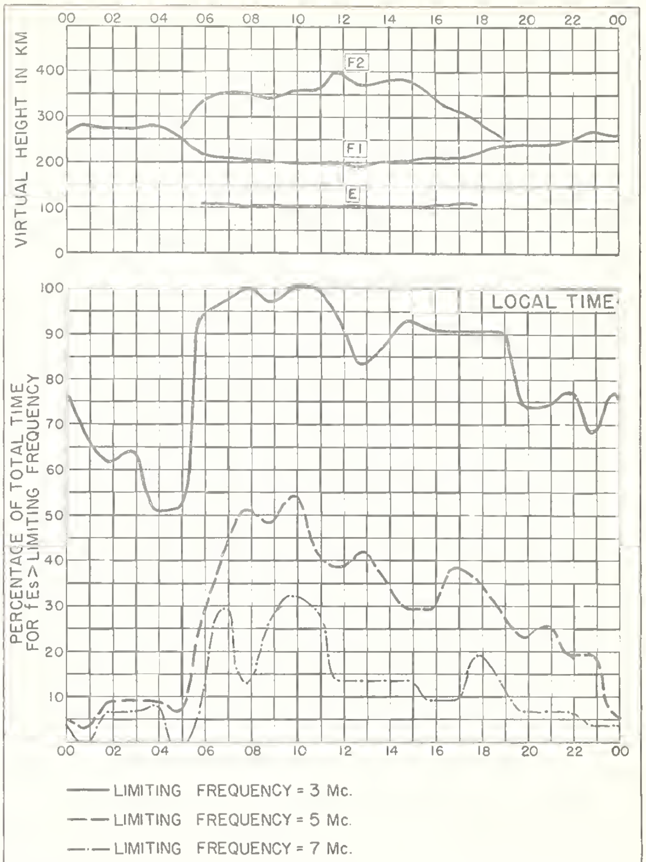


Fig. 2. WASHINGTON, D. C. JULY 1955

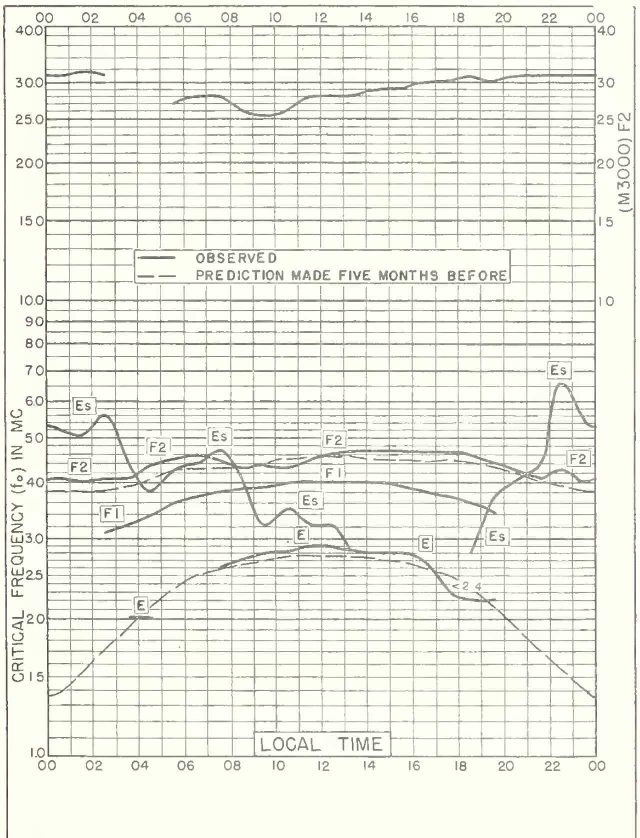


Fig. 3. POINT BARROW, ALASKA
71.3°N, 156.8°W JUNE 1955

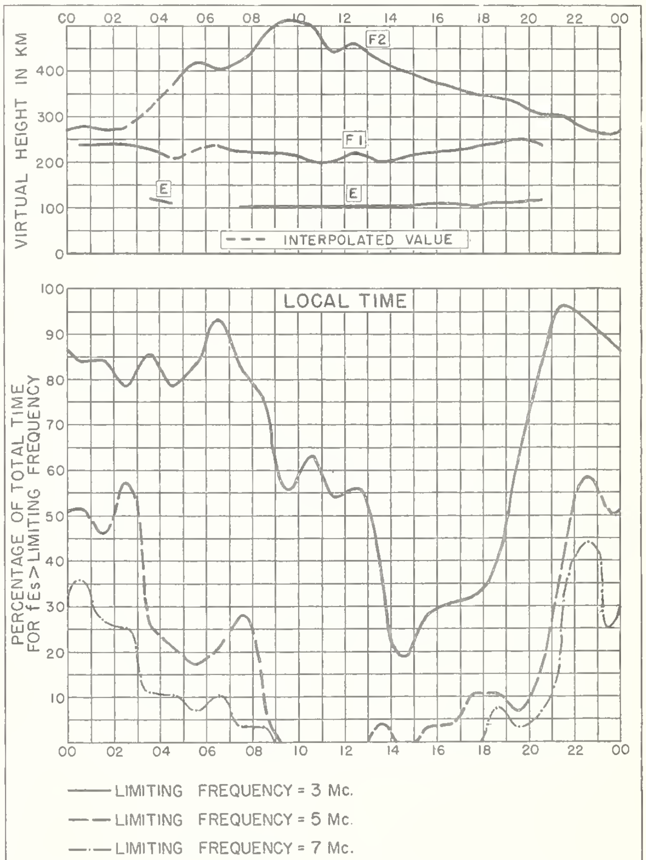


Fig. 4. POINT BARROW, ALASKA JUNE 1955

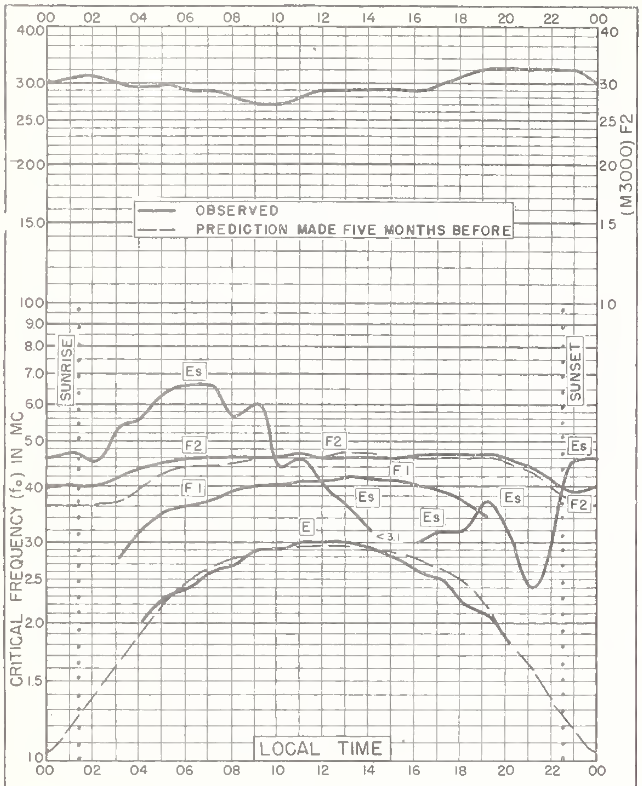


Fig. 5. FAIRBANKS, ALASKA
64.9°N, 147.8°W JUNE 1955

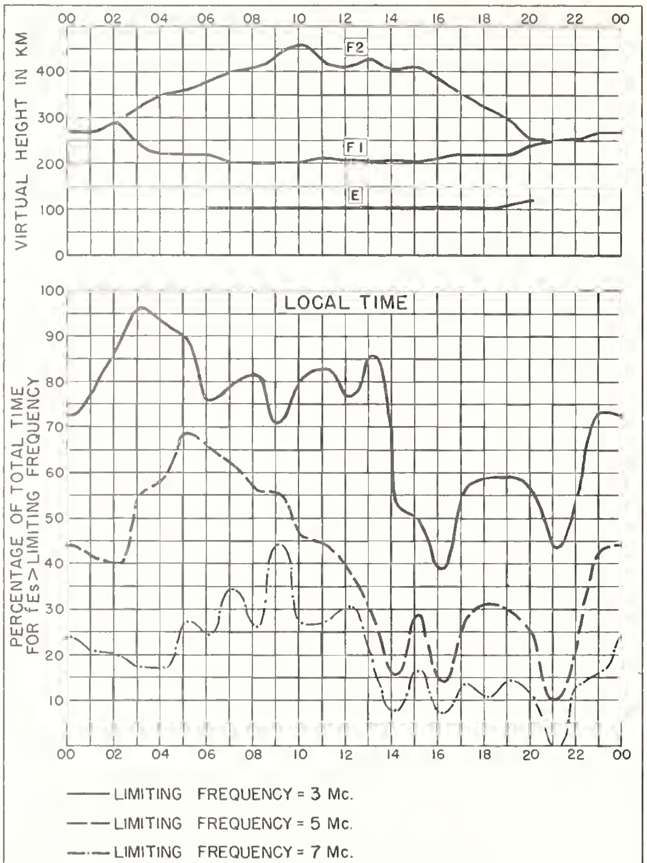


Fig. 6. FAIRBANKS, ALASKA JUNE 1955

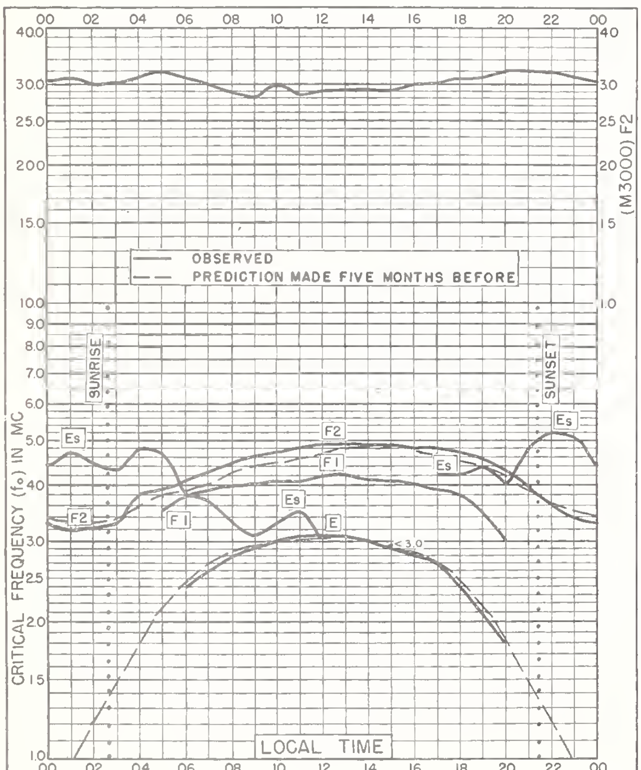


Fig. 7. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W JUNE 1955

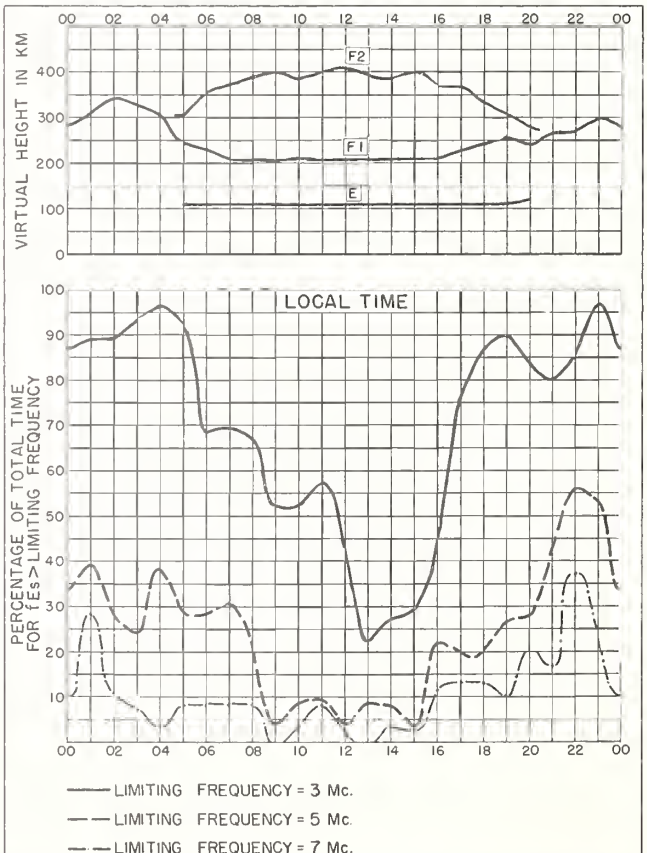


Fig. 8. NARSARSSUAK, GREENLAND JUNE 1955

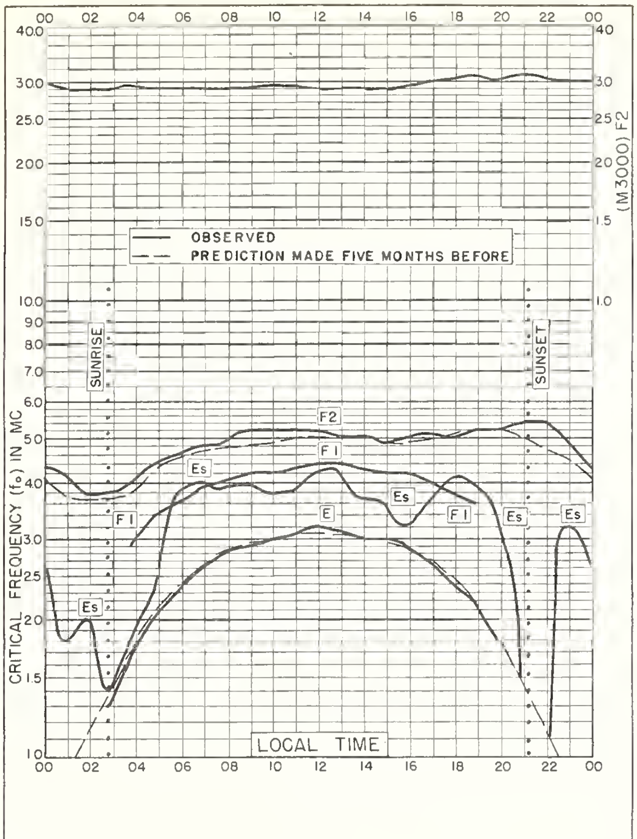


Fig. 9. OSLO, NORWAY
60.0°N, 11.1°E JUNE 1955

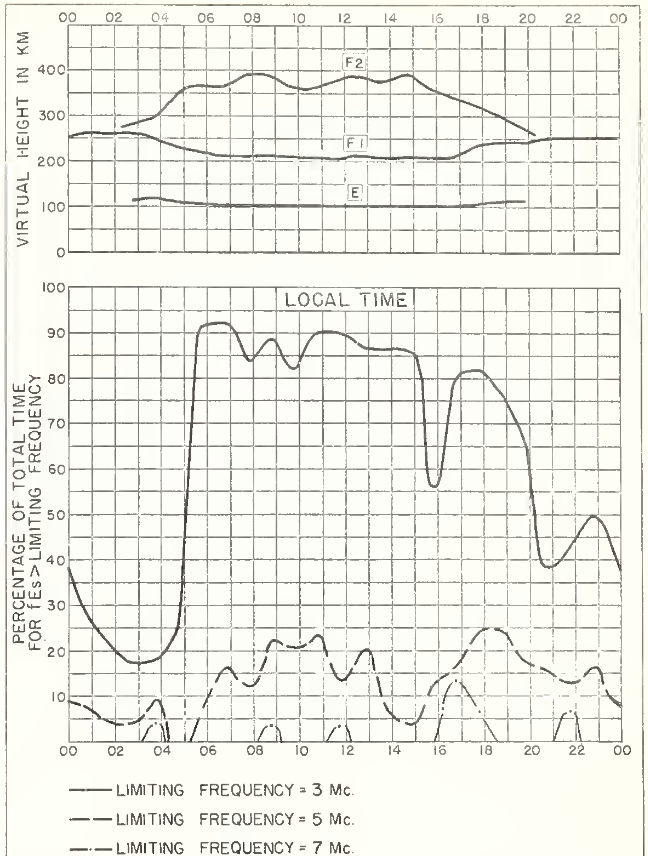


Fig. 10. OSLO, NORWAY JUNE 1955

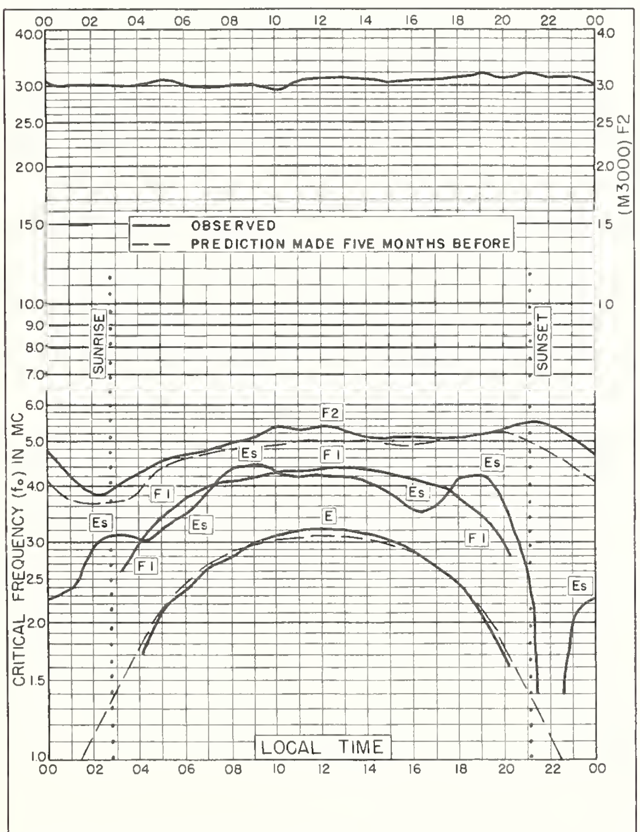


Fig. 11. UPSALA, SWEDEN
59.8°N, 17.6°E JUNE 1955

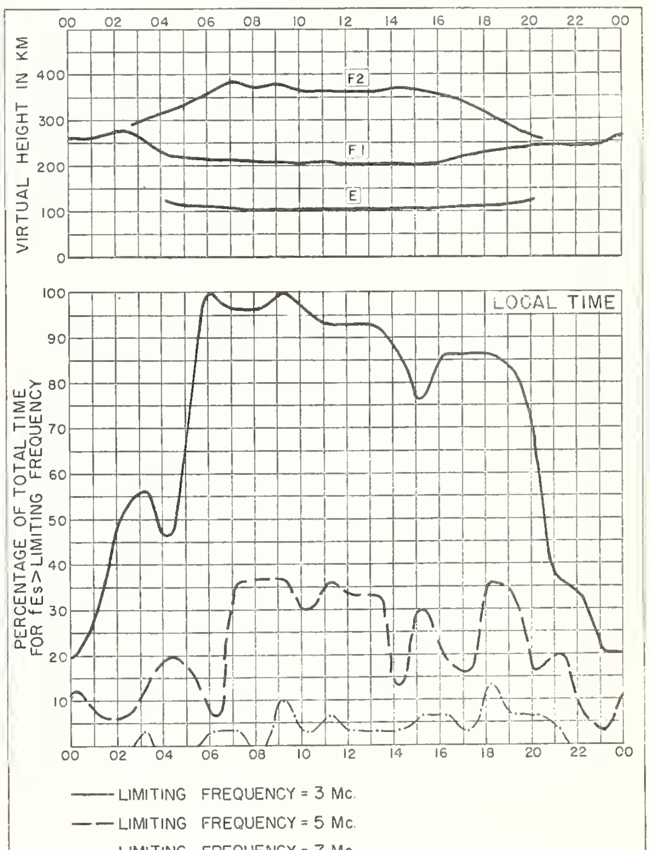


Fig. 12. UPSALA, SWEDEN JUNE 1955

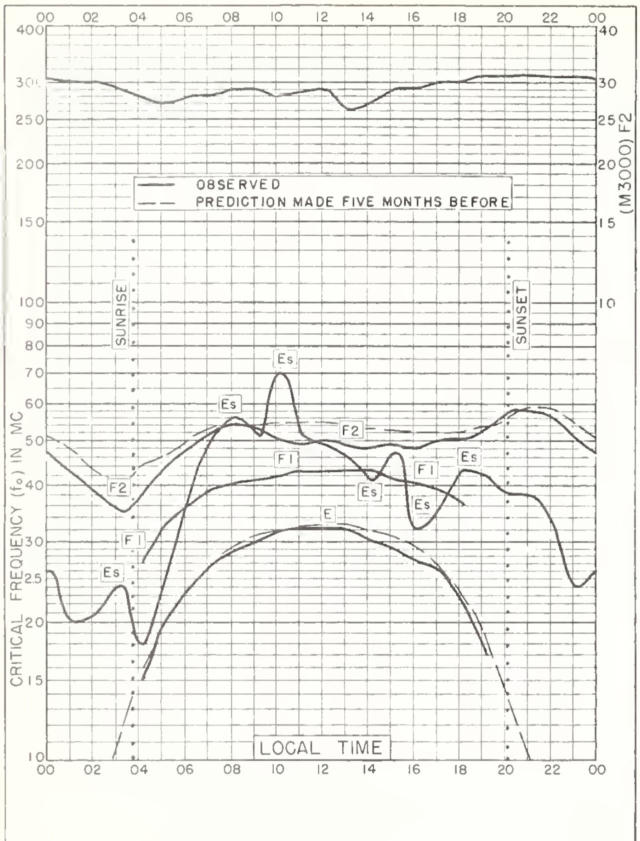


Fig. 13. ADAK, ALASKA
51.9°N, 176.6°W JUNE 1955

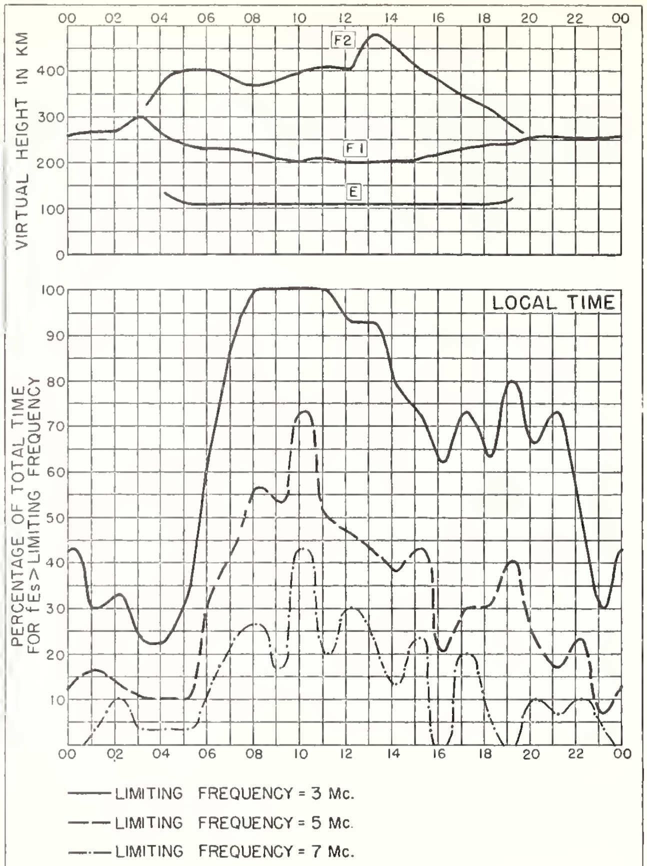


Fig. 14. ADAK, ALASKA JUNE 1955

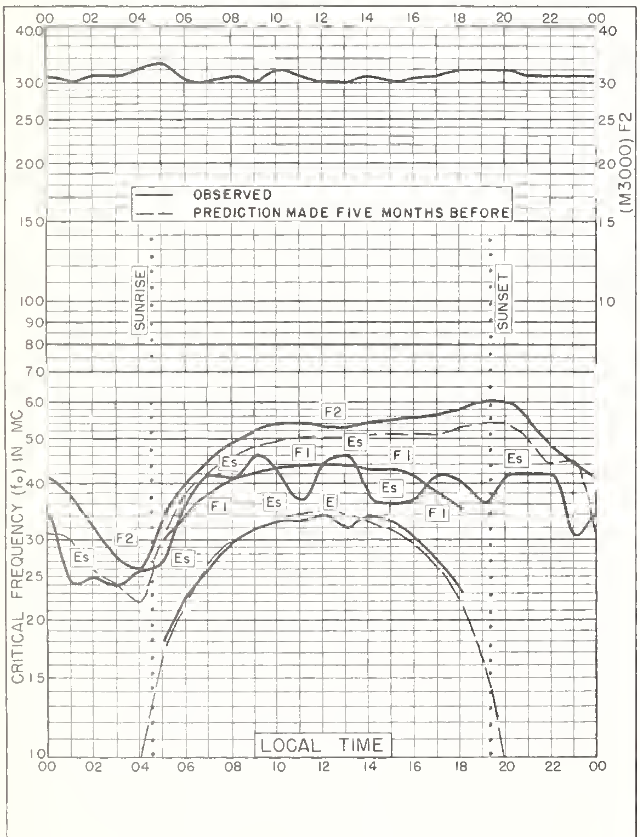


Fig. 15. FT. MONMOUTH, NEW JERSEY
40.0°N, 74.0°W JUNE 1955

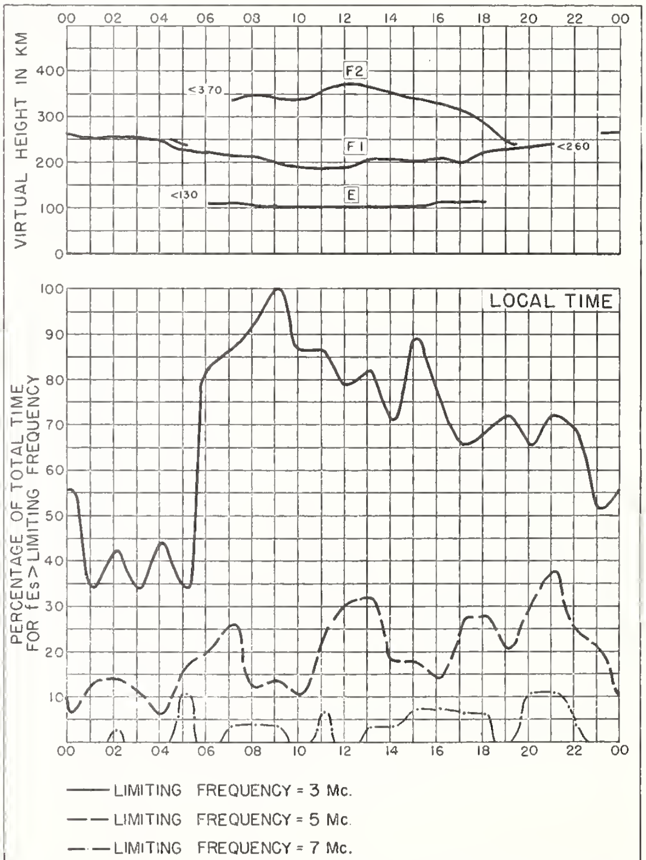


Fig. 16. FT. MONMOUTH, NEW JERSEY JUNE 1955

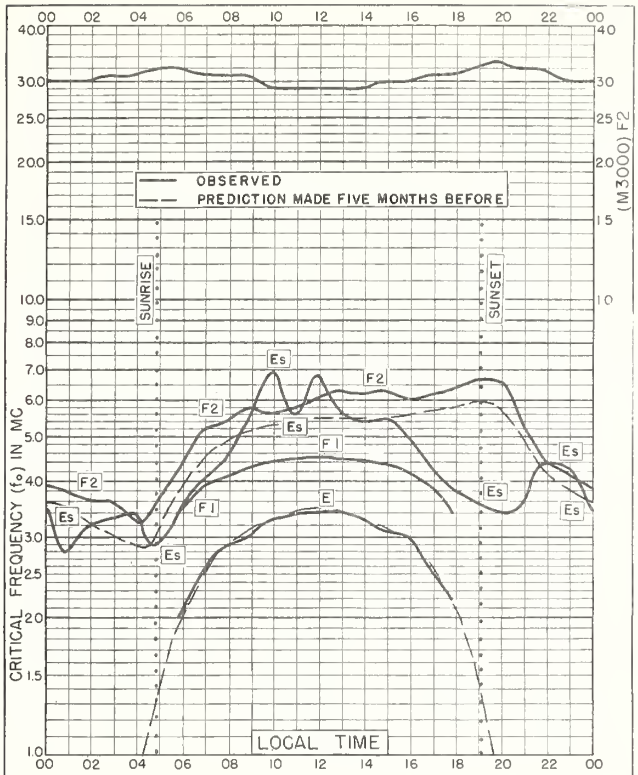


Fig. 17. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W JUNE 1955

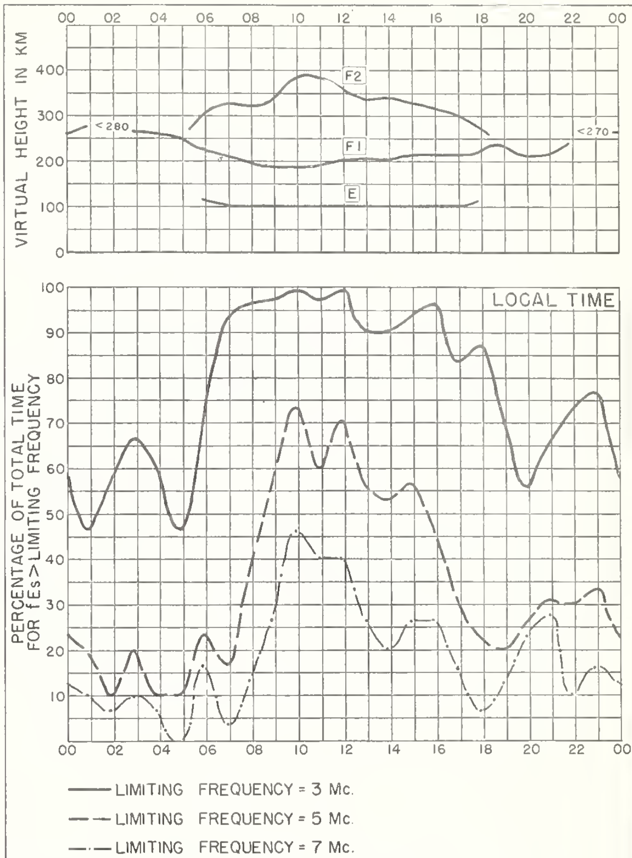


Fig. 18. WHITE SANDS, NEW MEXICO JUNE 1955

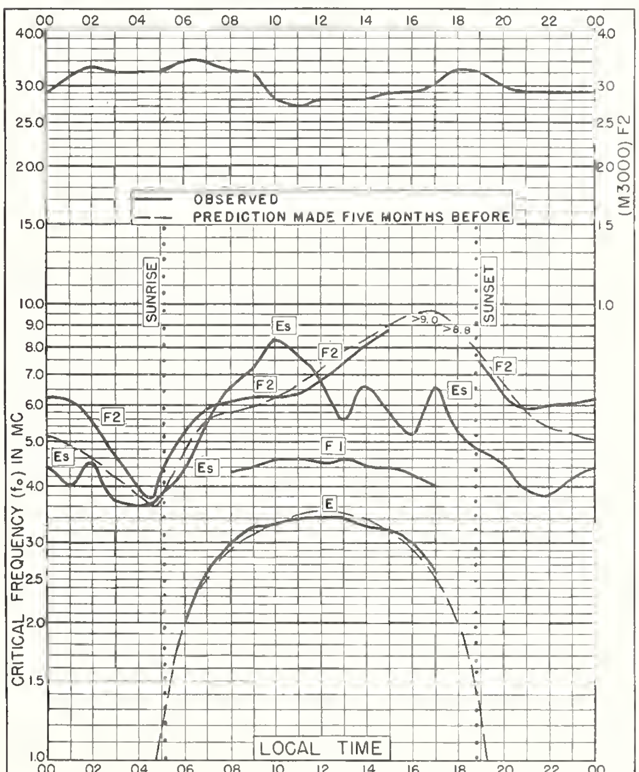


Fig. 19. OKINAWA I.
26.3°N, 127.8°E JUNE 1955

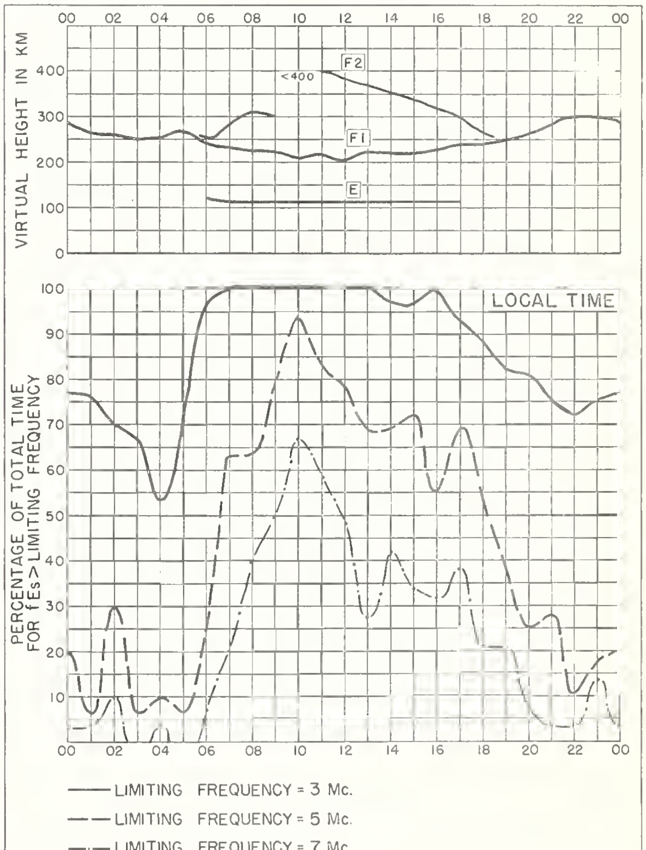


Fig. 20. OKINAWA I. JUNE 1955

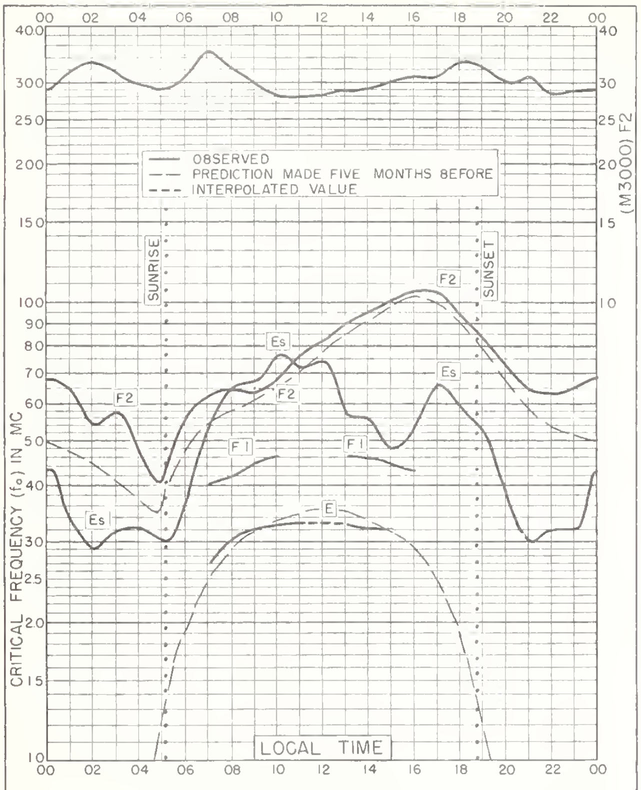


Fig. 21. FORMOSA, CHINA
25.0°N, 121.5°E JUNE 1955

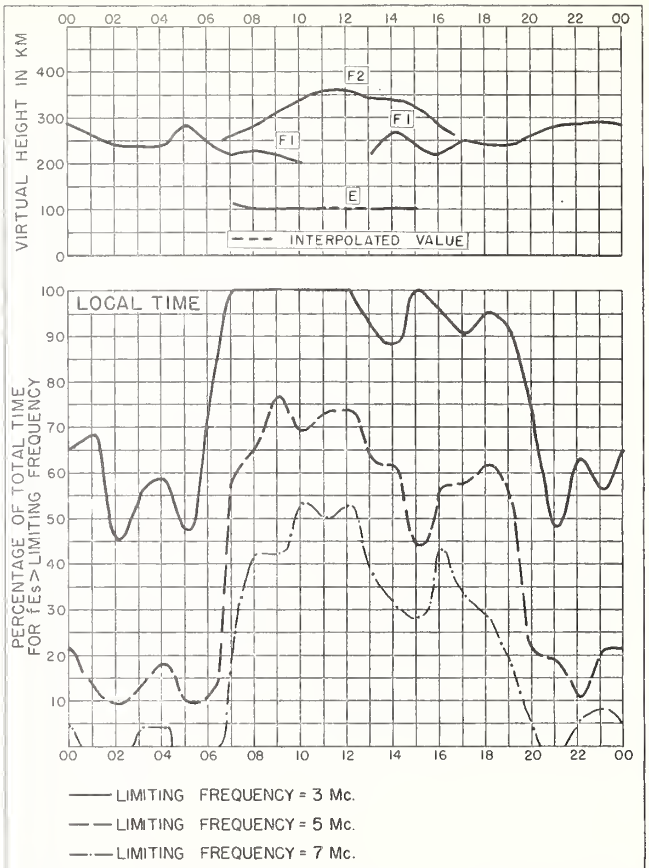


Fig. 22. FORMOSA, CHINA JUNE 1955

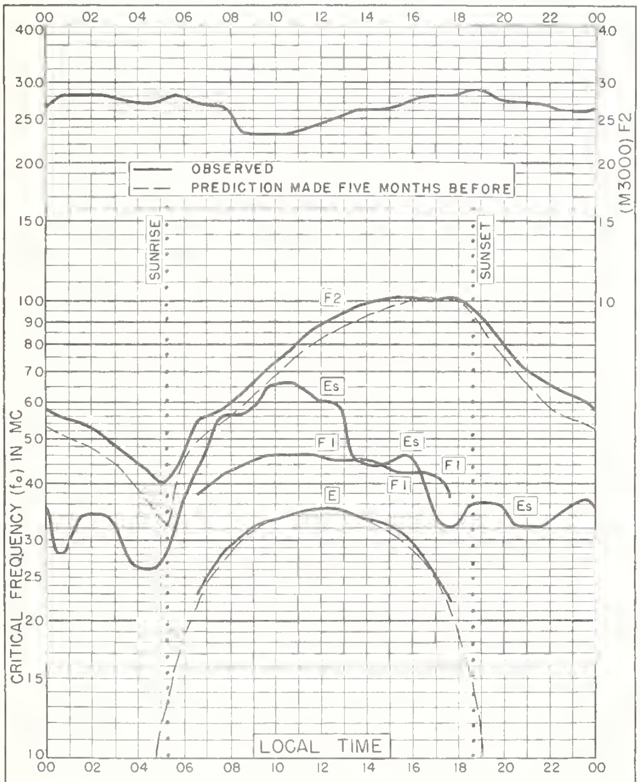


Fig. 23. MAUI, HAWAII
20.8°N, 156.5°W JUNE 1955

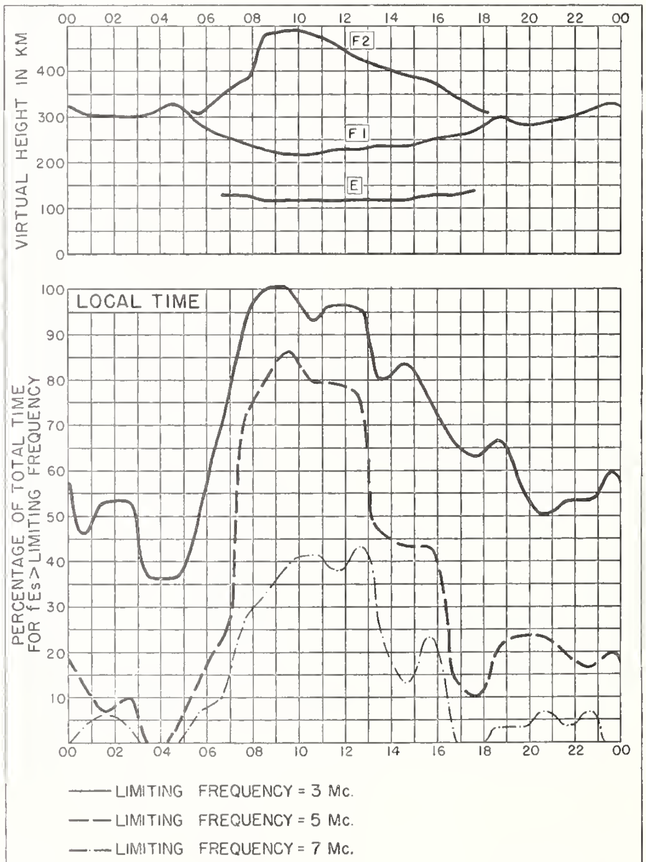


Fig. 24. MAUI, HAWAII JUNE 1955

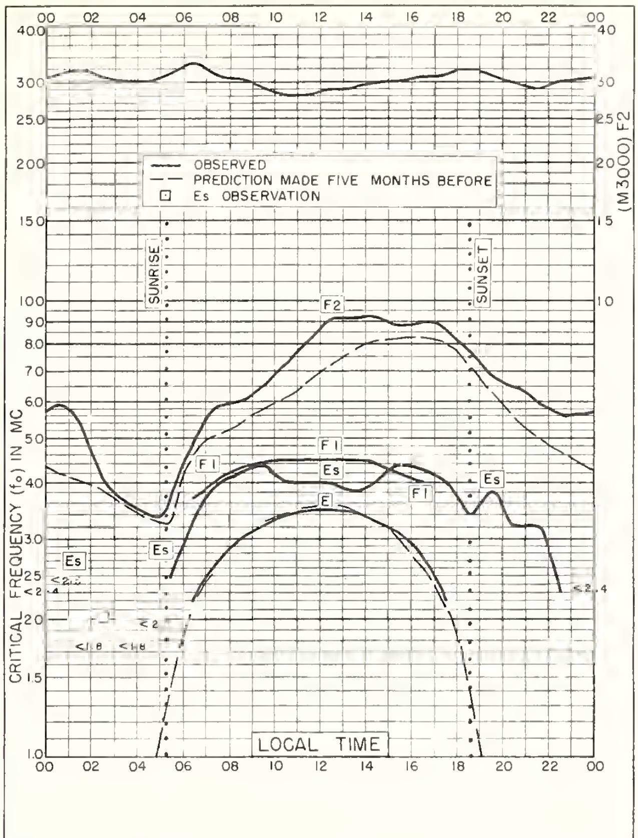


Fig. 25. PUERTO RICO, W. I.
18.5°N, 67.2°W JUNE 1955

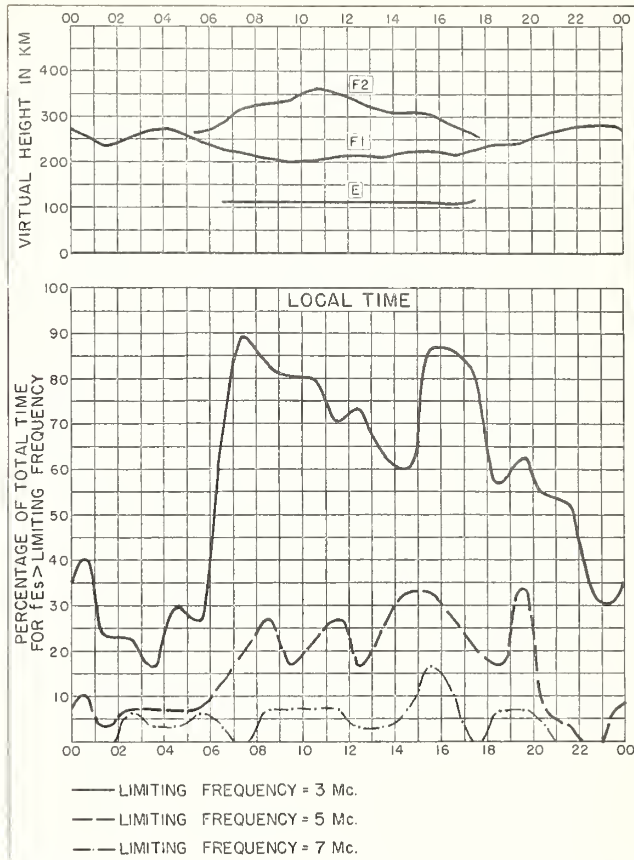


Fig. 26. PUERTO RICO, W. I. JUNE 1955

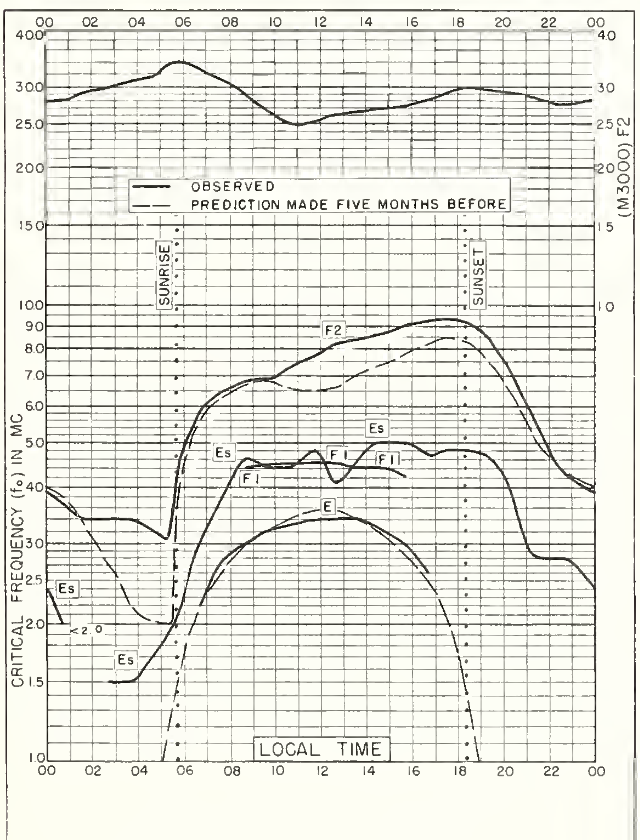


Fig. 27. GUAM I.
13.6°N, 144.9°E JUNE 1955

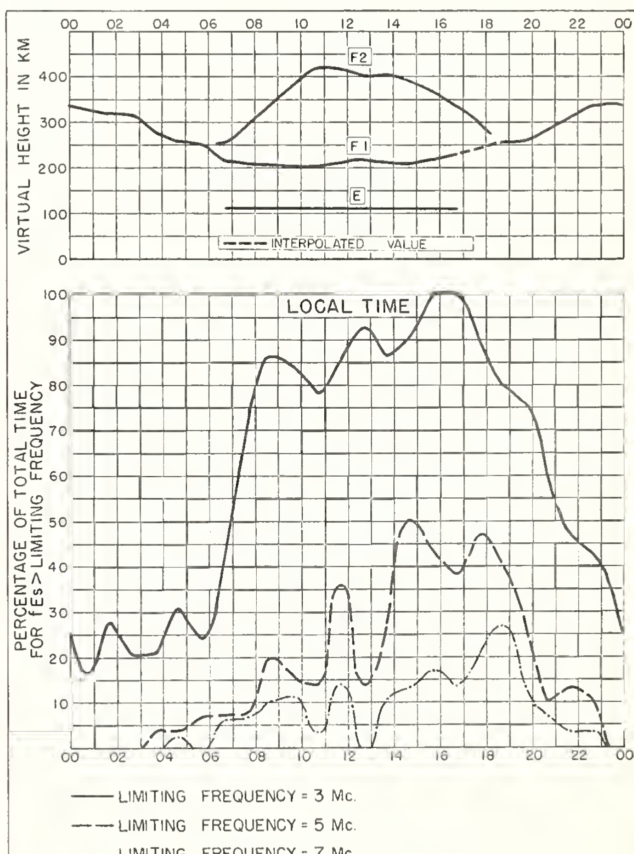


Fig. 28. GUAM I. JUNE 1955

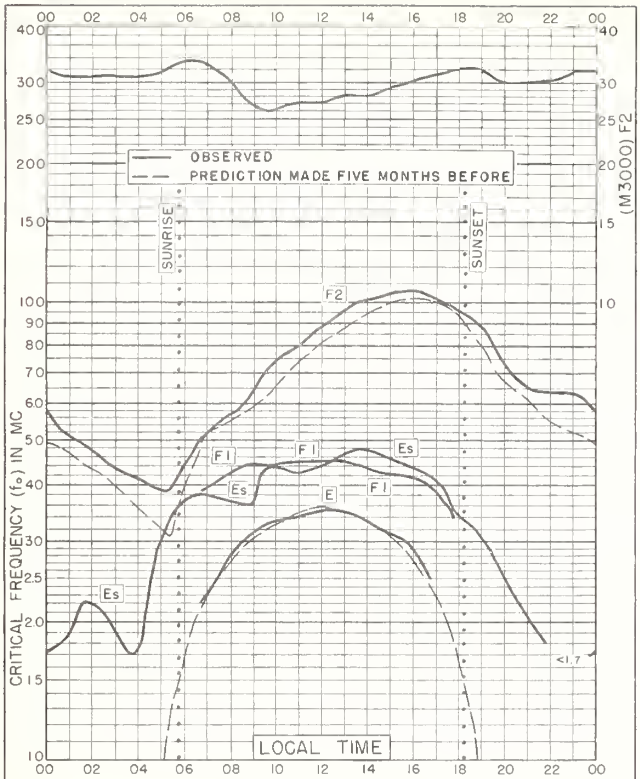


Fig. 29. PANAMA CANAL ZONE
9.4°N, 79.9°W JUNE 1955

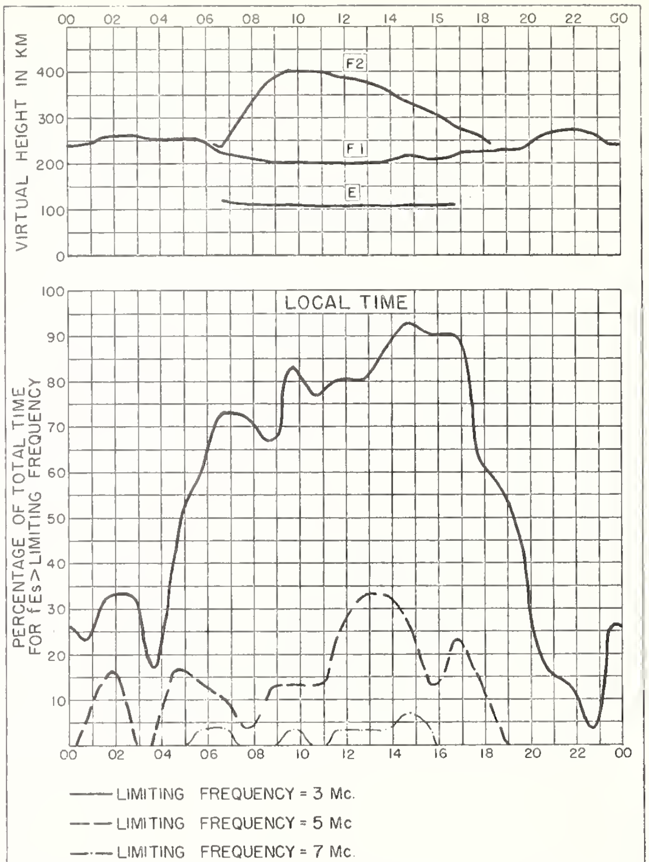


Fig. 30. PANAMA CANAL ZONE JUNE 1955

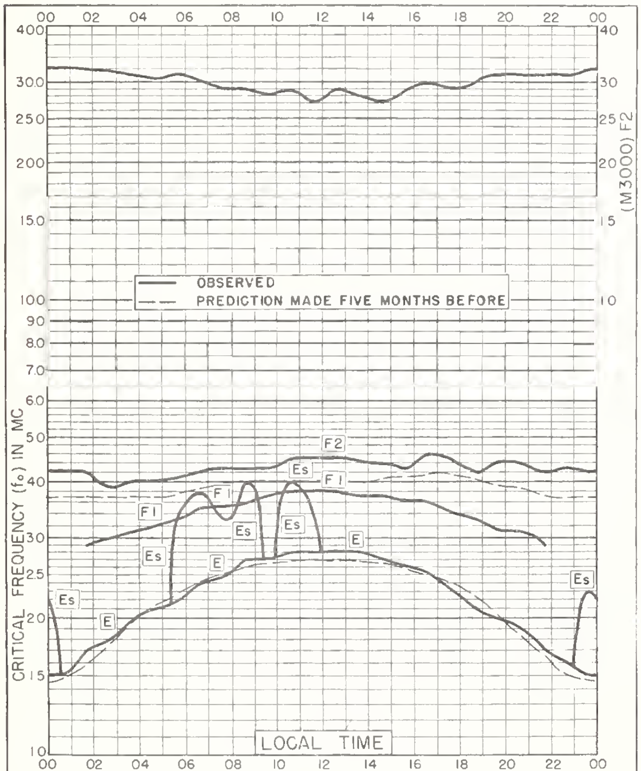


Fig. 31. RESOLUTE BAY, CANADA
74.7°N, 94.9°W MAY 1955

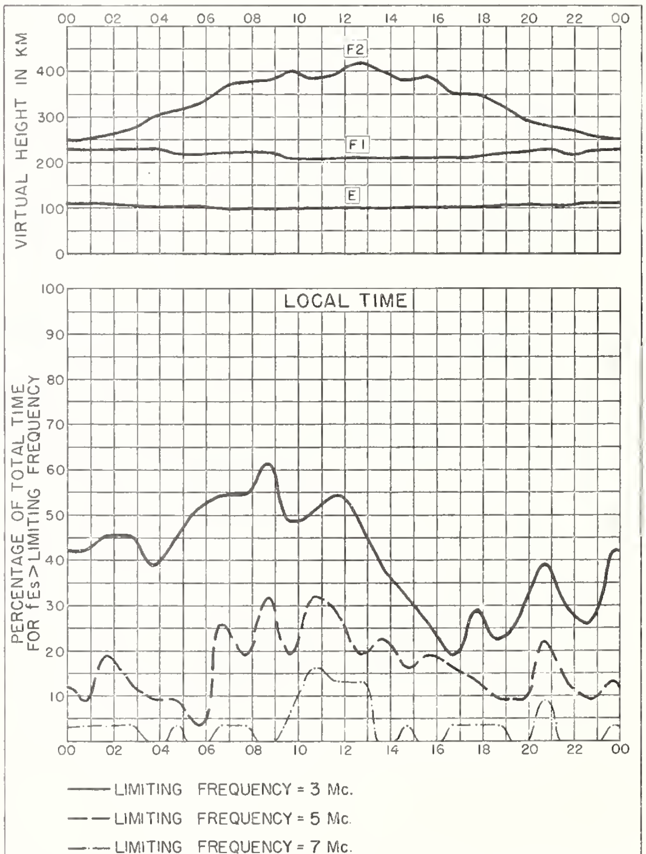


Fig. 32. RESOLUTE BAY, CANADA MAY 1955

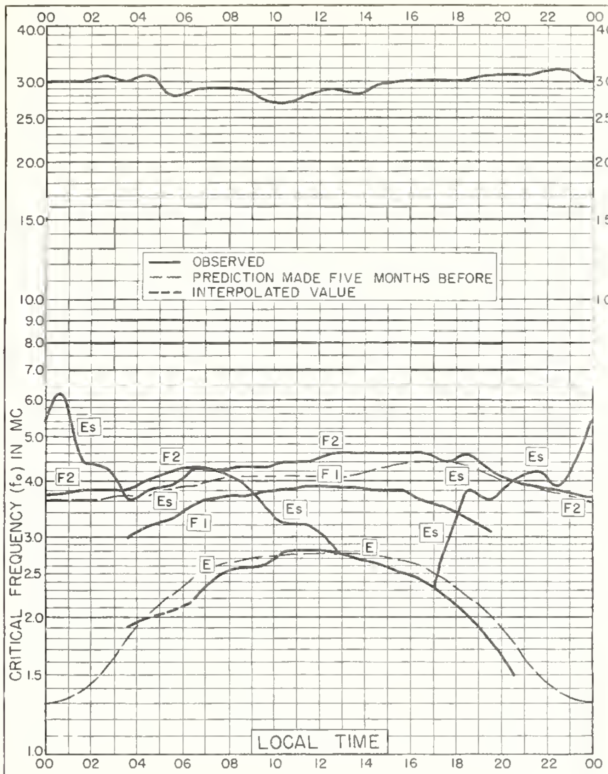


Fig. 33. POINT BARROW, ALASKA
71.3°N, 156.8°W MAY 1955

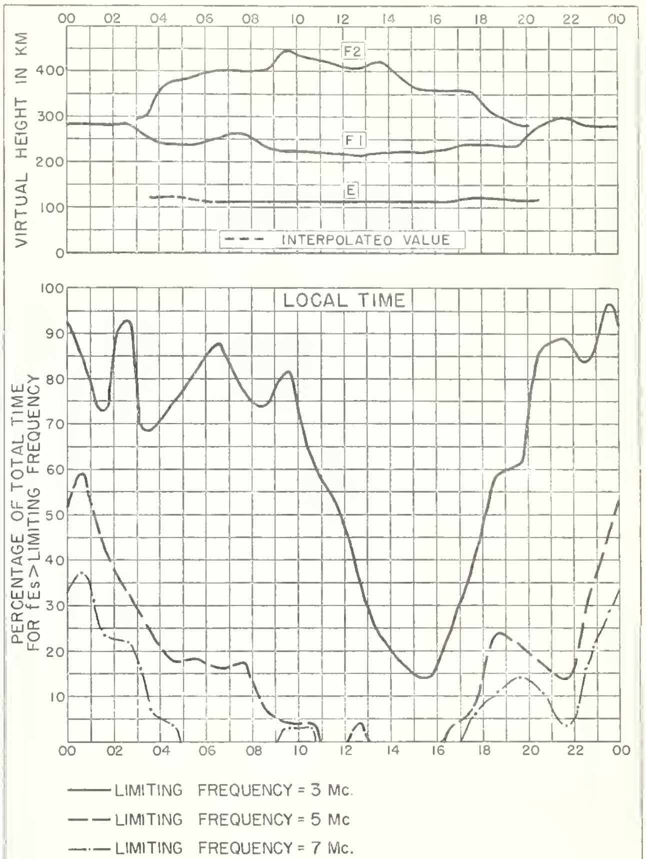


Fig. 34. POINT BARROW, ALASKA MAY 1955

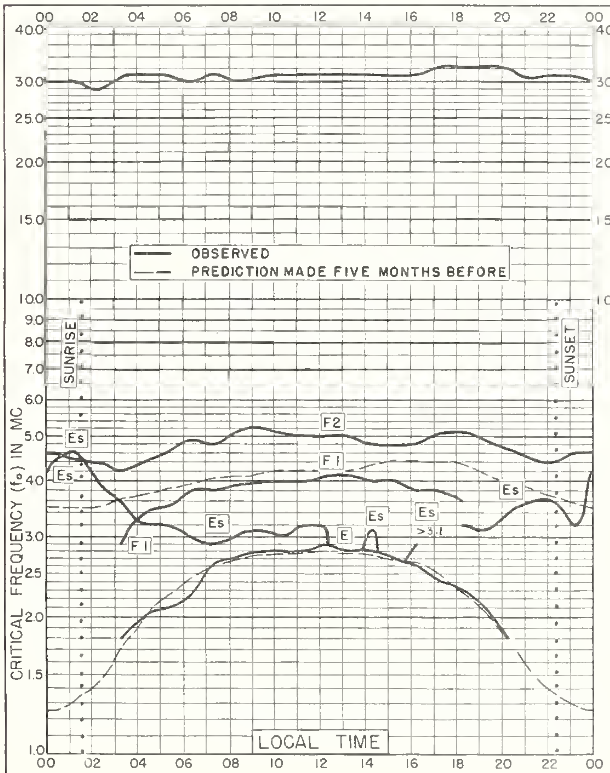


Fig. 35. TROMSO, NORWAY
69.7°N, 19.0°E MAY 1955

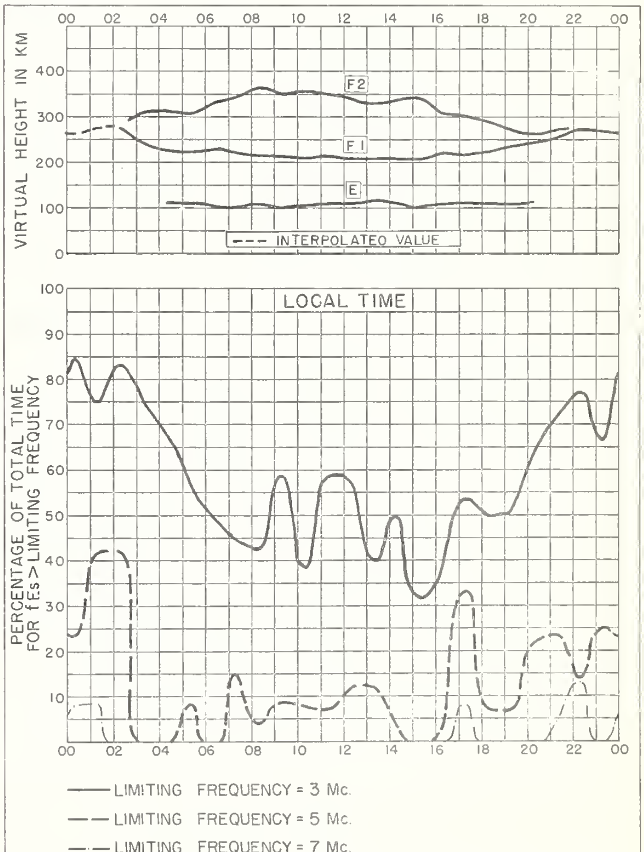


Fig. 36. TROMSO, NORWAY MAY 1955

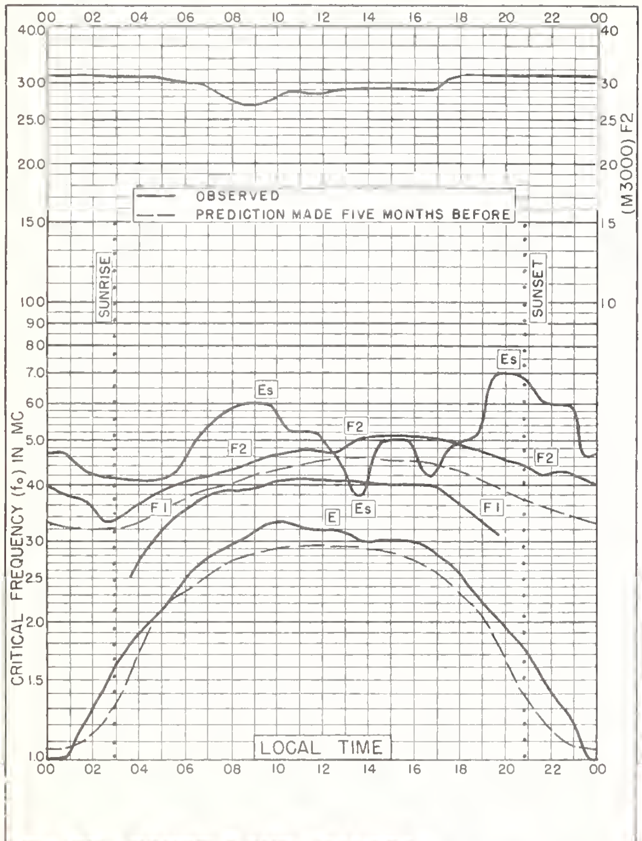


Fig. 37. BAKER LAKE, CANADA
64.3°N, 96.0°W MAY 1955

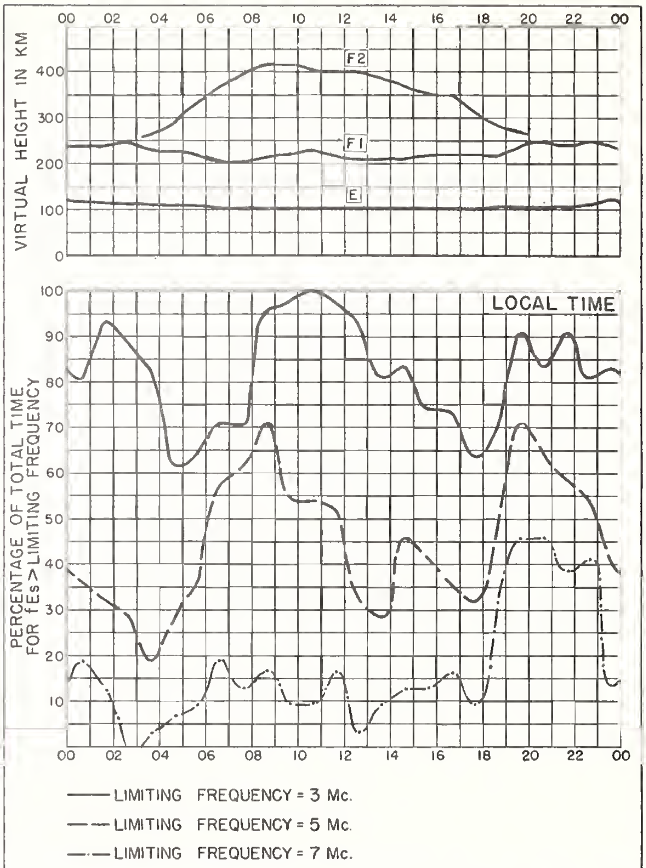


Fig. 38. BAKER LAKE, CANADA MAY 1955

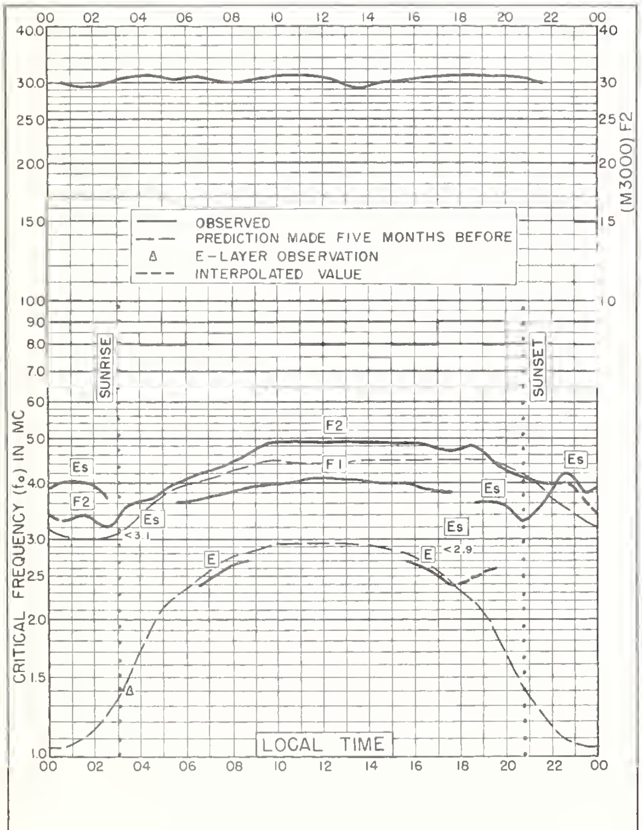


Fig. 39. REYKJAVIK, ICELAND
64.1°N, 21.8°W MAY 1955

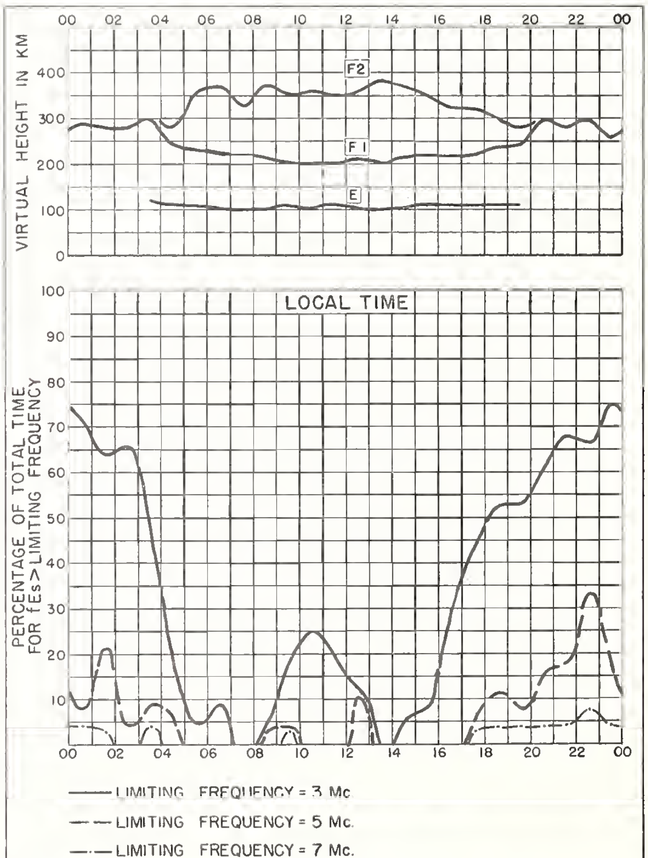


Fig. 40. REYKJAVIK, ICELAND MAY 1955

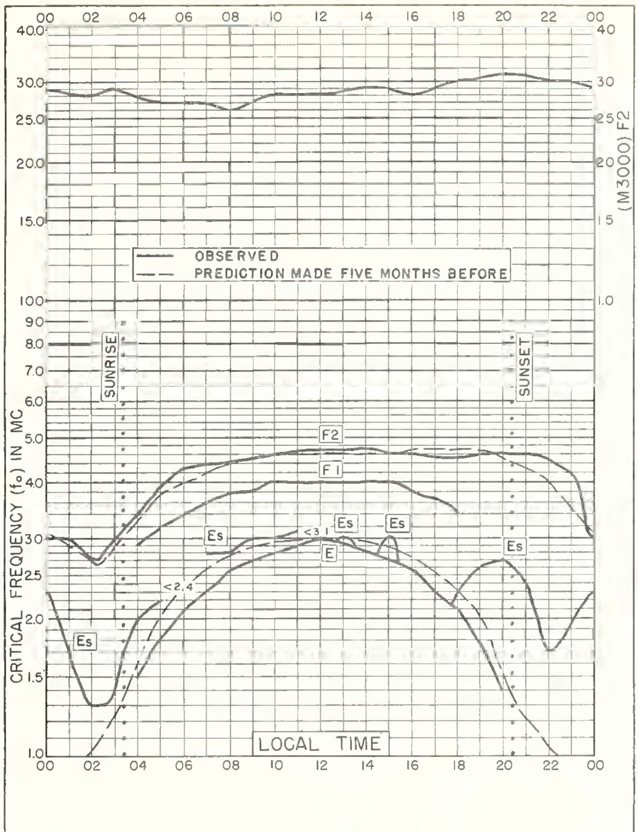


Fig. 41. ANCHORAGE, ALASKA
61.2°N, 149.9°W MAY 1955

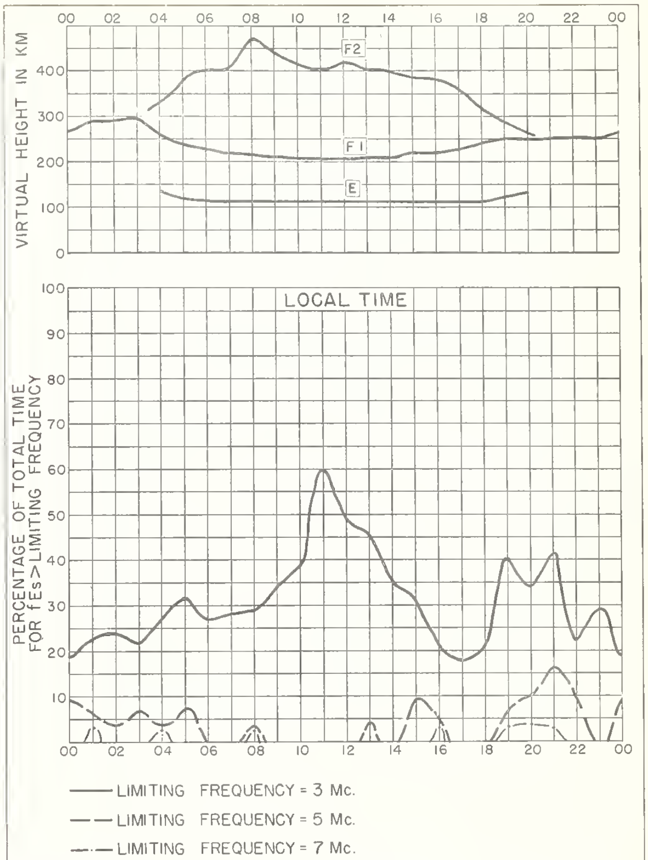


Fig. 42. ANCHORAGE, ALASKA MAY 1955

NBS 490

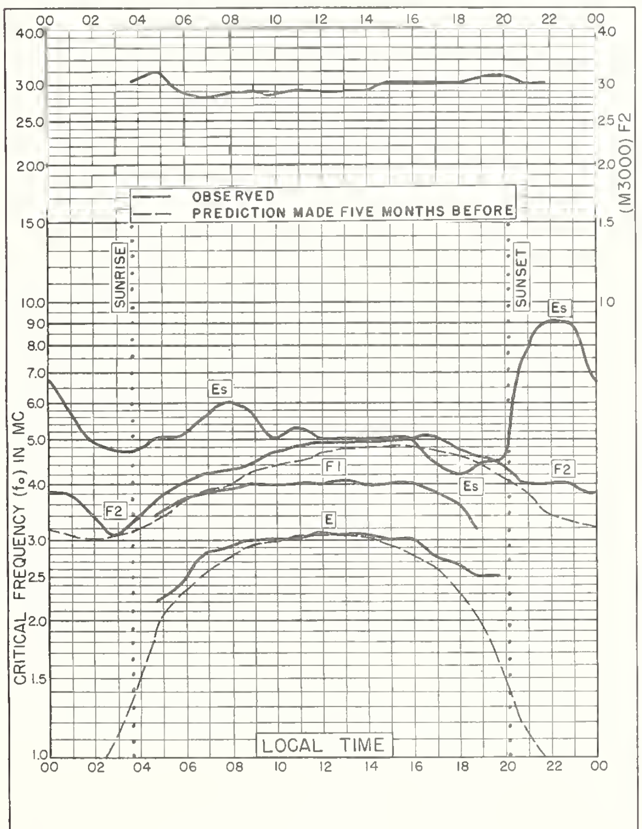


Fig. 43. CHURCHILL, CANADA
58.8°N, 94.2°W MAY 1955

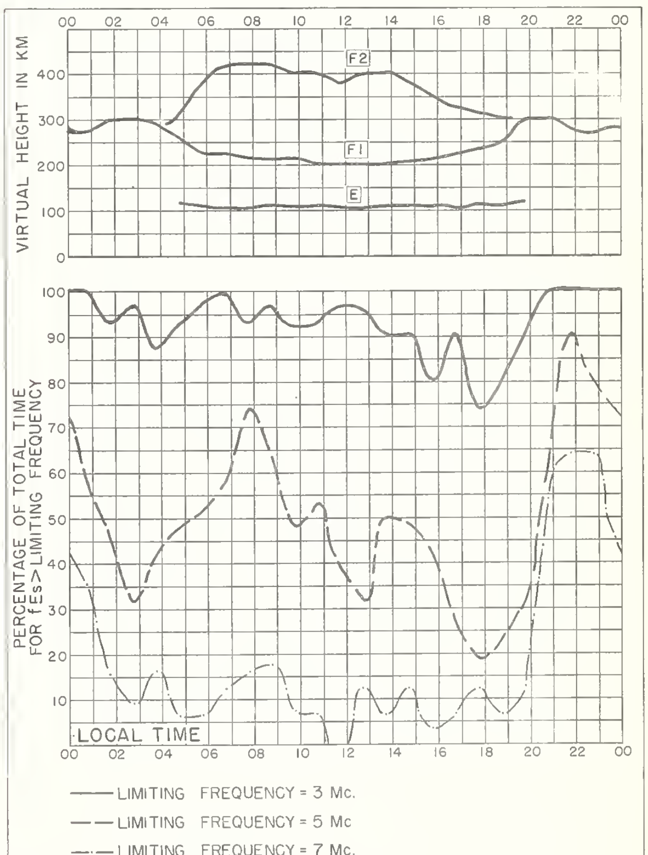


Fig. 44. CHURCHILL, CANADA MAY 1955

NBS 490

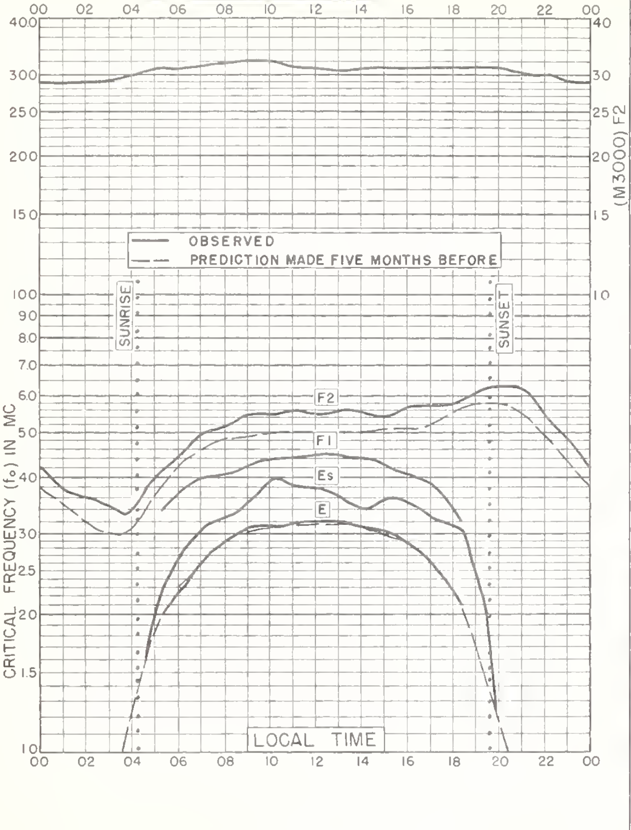


Fig. 45. De BILT, HOLLAND
52.1°N, 5.2°E MAY 1955

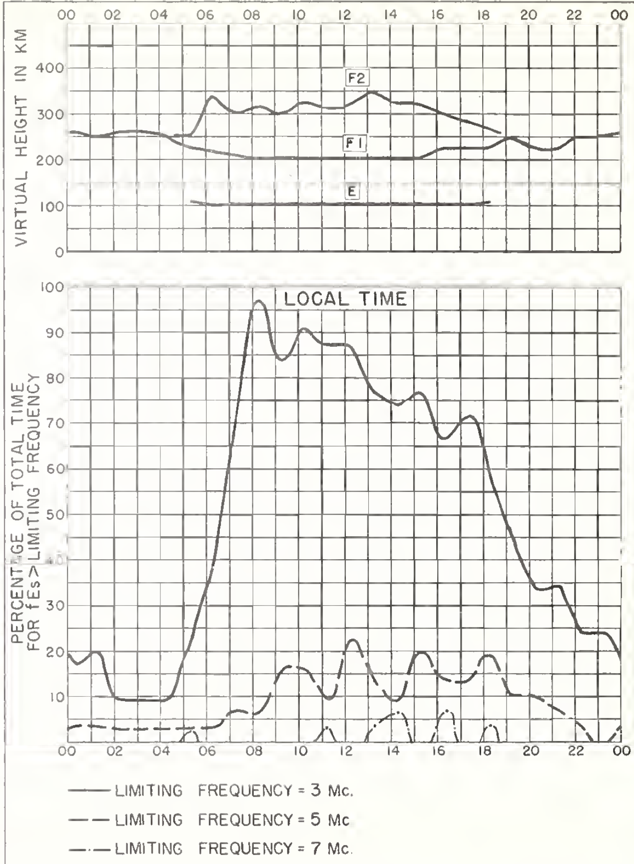


Fig. 46. De BILT, HOLLAND MAY 1955

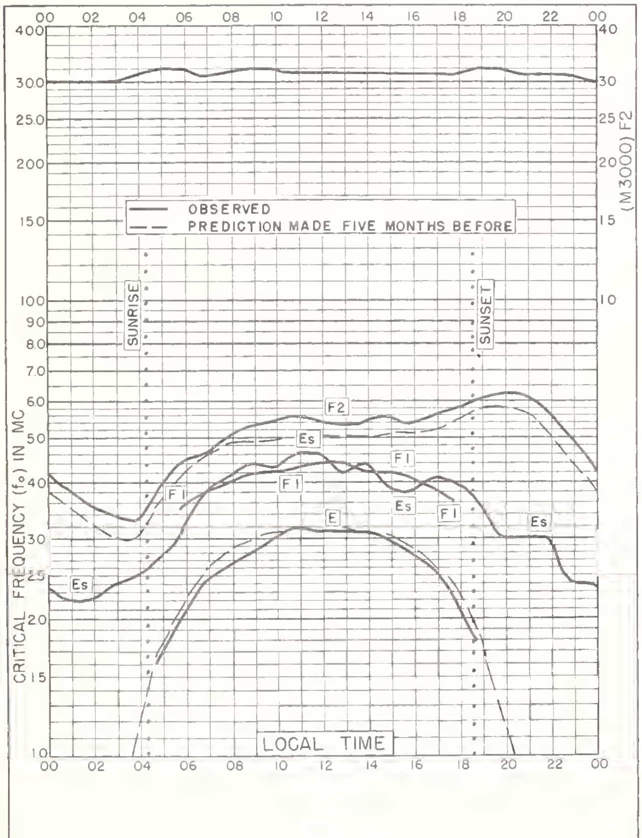


Fig. 47. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E MAY 1955

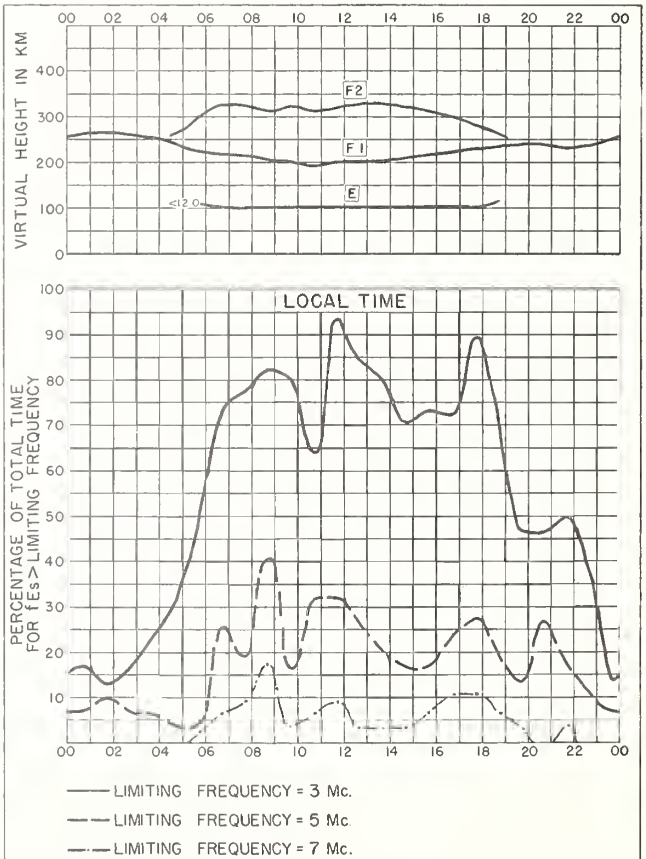


Fig. 48. LINDAU/HARZ, GERMANY MAY 1955

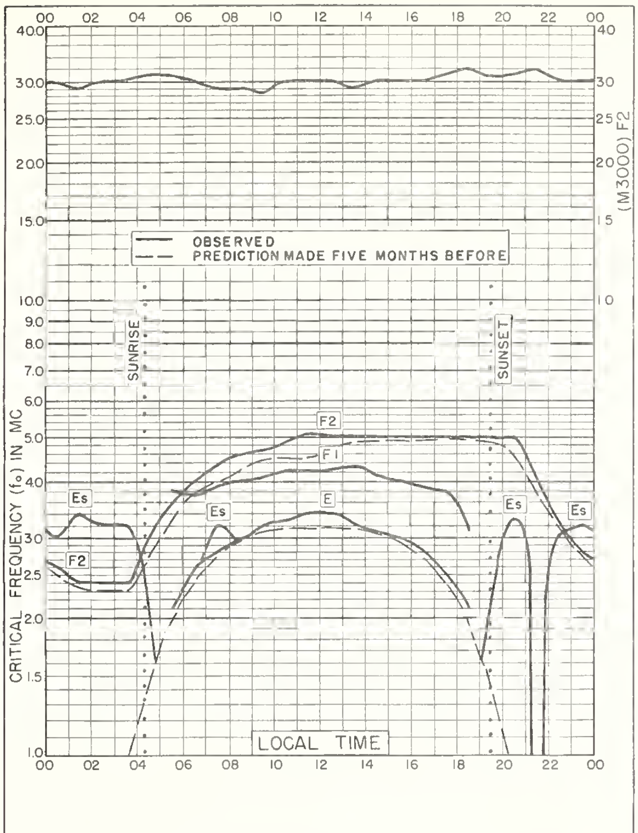


Fig. 49. WINNIPEG, CANADA
49.9°N, 97.4°W MAY 1955

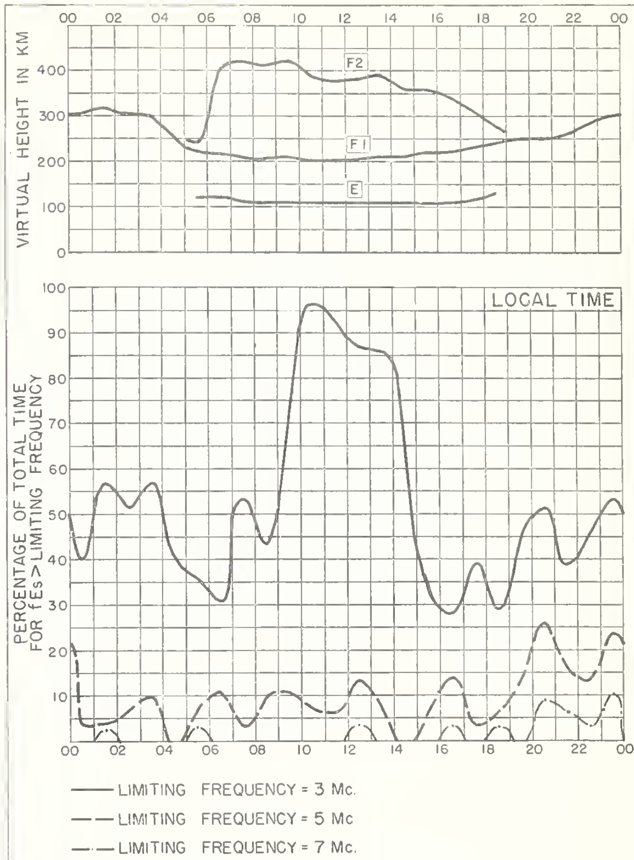


Fig. 50. WINNIPEG, CANADA MAY 1955

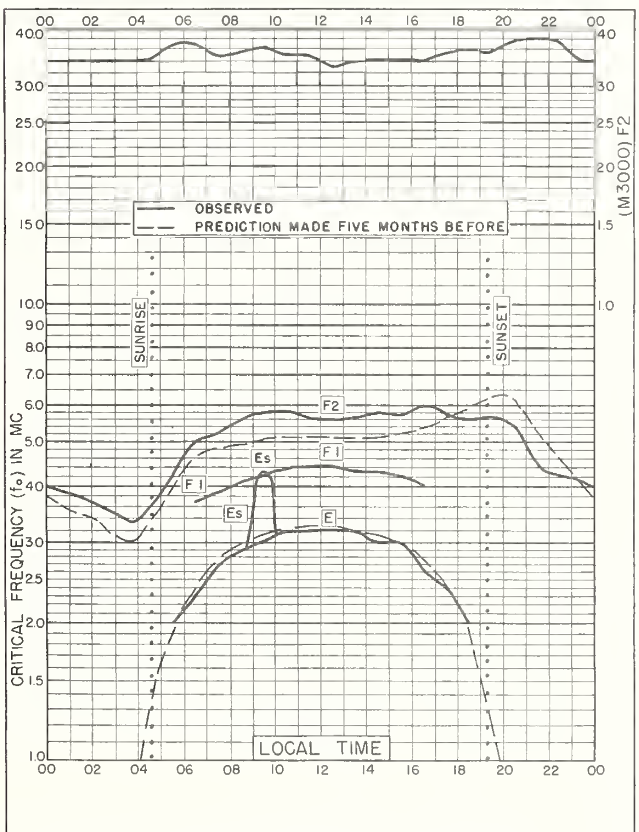
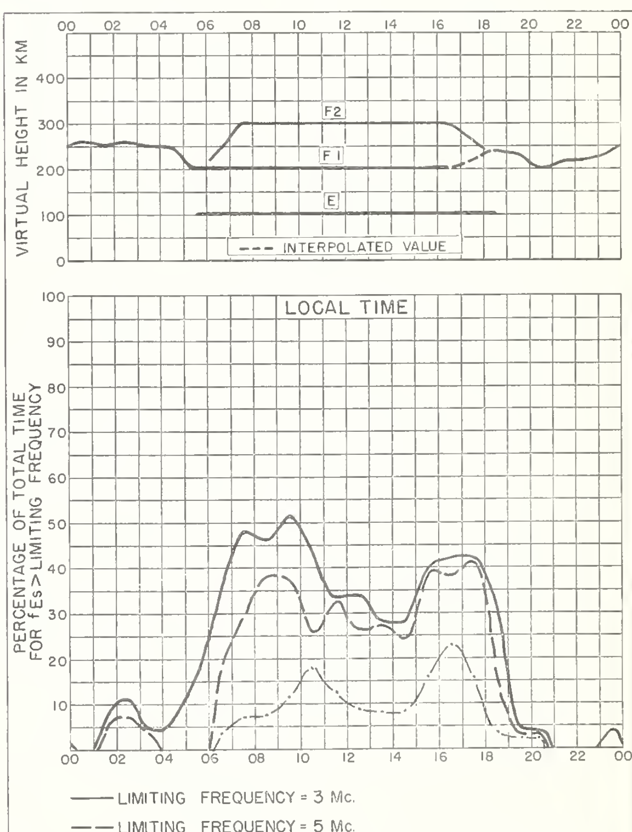


Fig. 51. SCHWARZENBURG, SWITZERLAND
46.8°N, 7.3°E MAY 1955



MAY 1955
Fig. 52. SCHWARZENBURG, SWITZERLAND

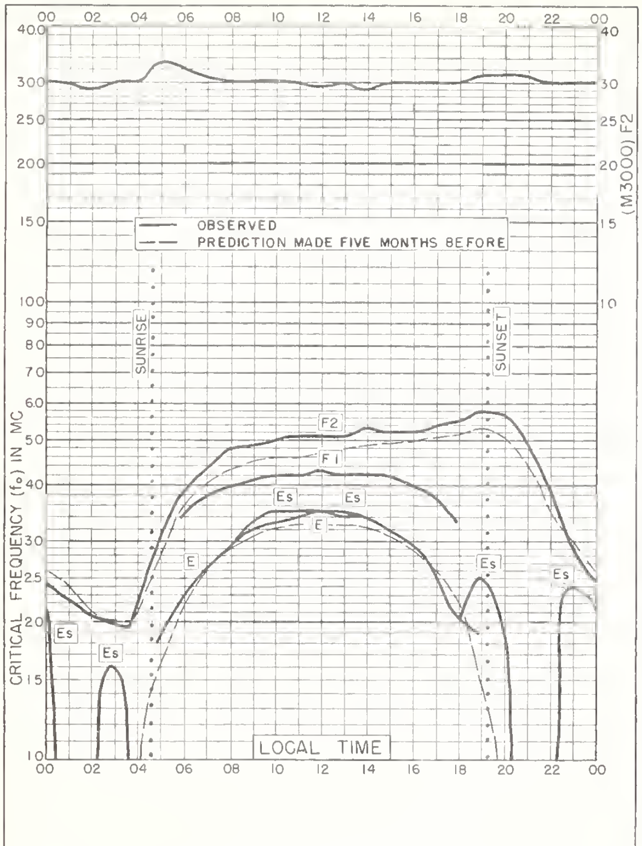


Fig. 53. OTTAWA, CANADA
45.4°N, 75.9°W MAY 1955

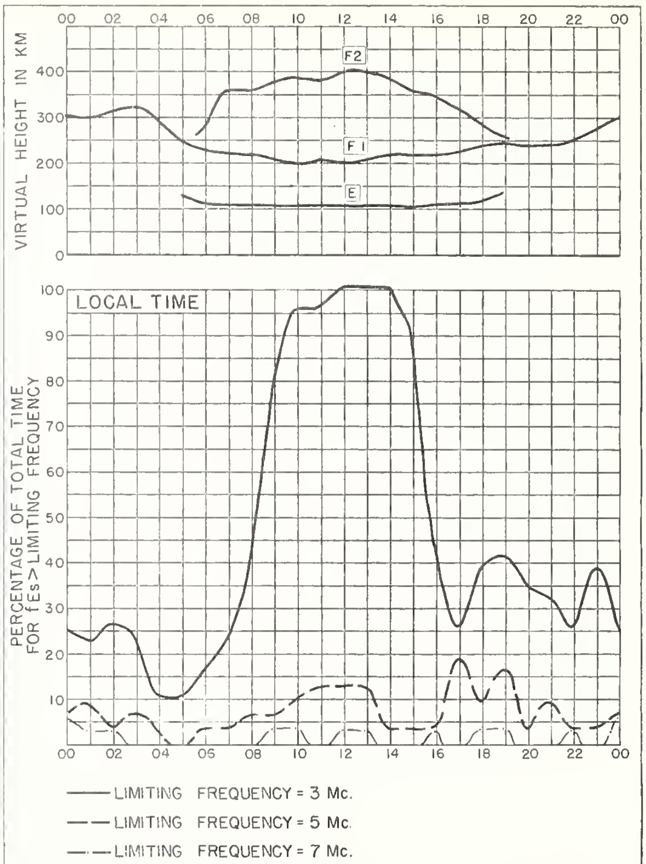


Fig. 54. OTTAWA, CANADA MAY 1955

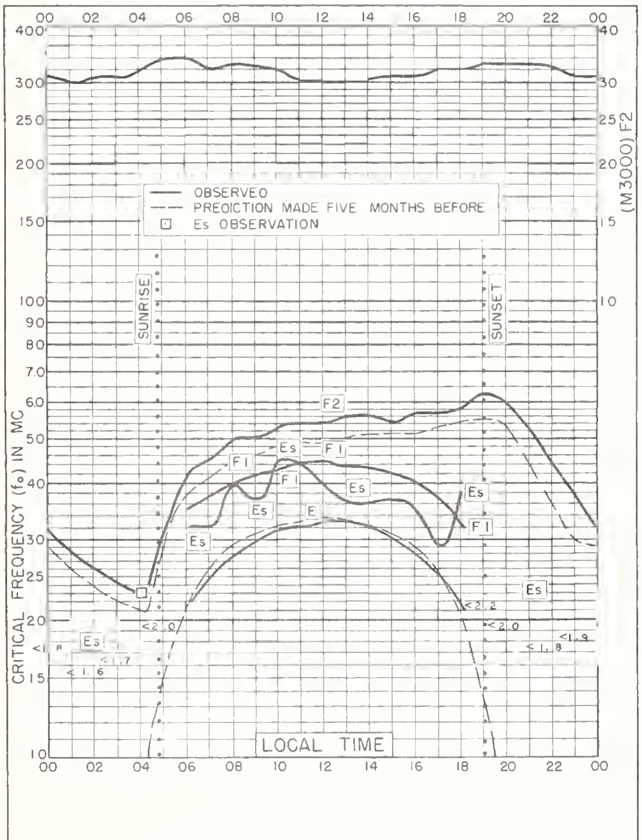
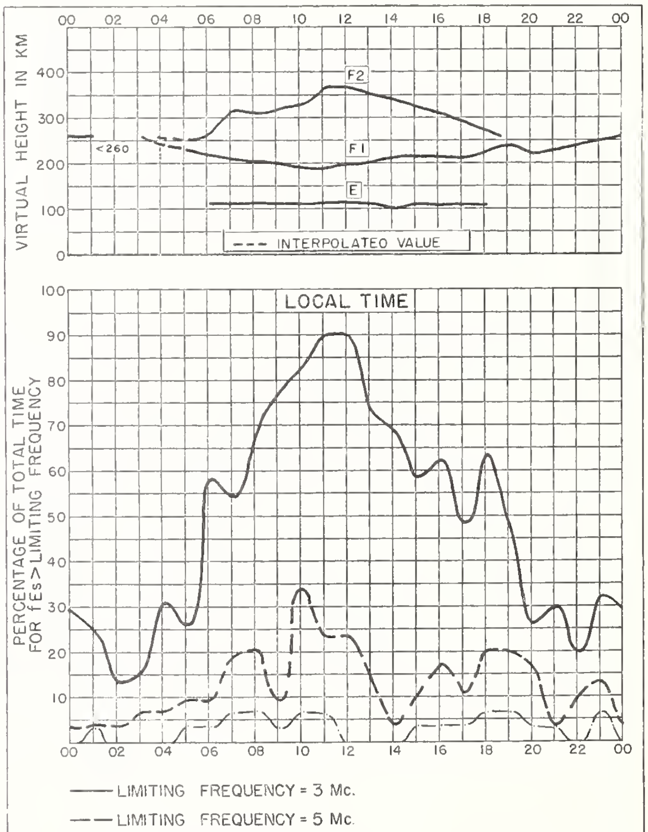


Fig. 55. FT. MONMOUTH, NEW JERSEY
40.0°N, 74.0°W MAY 1955



MAY 1955
Fig. 56. FT. MONMOUTH, NEW JERSEY

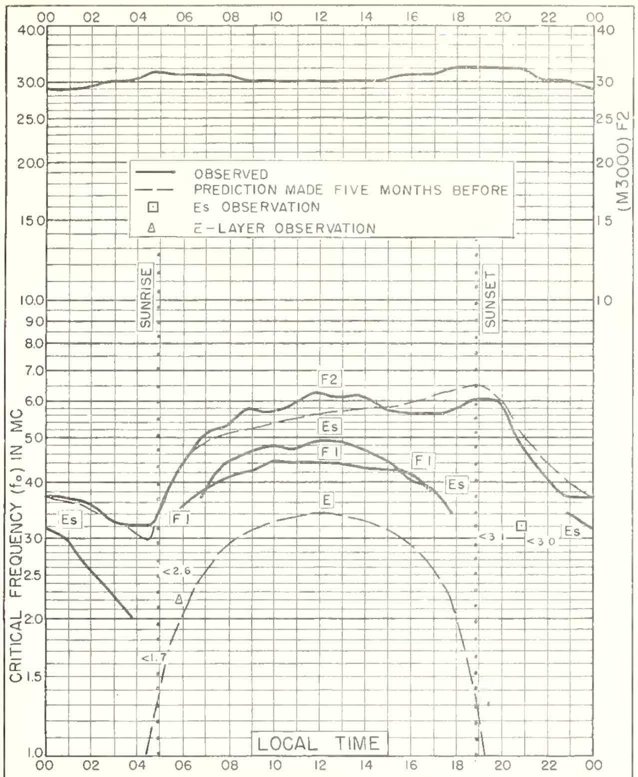
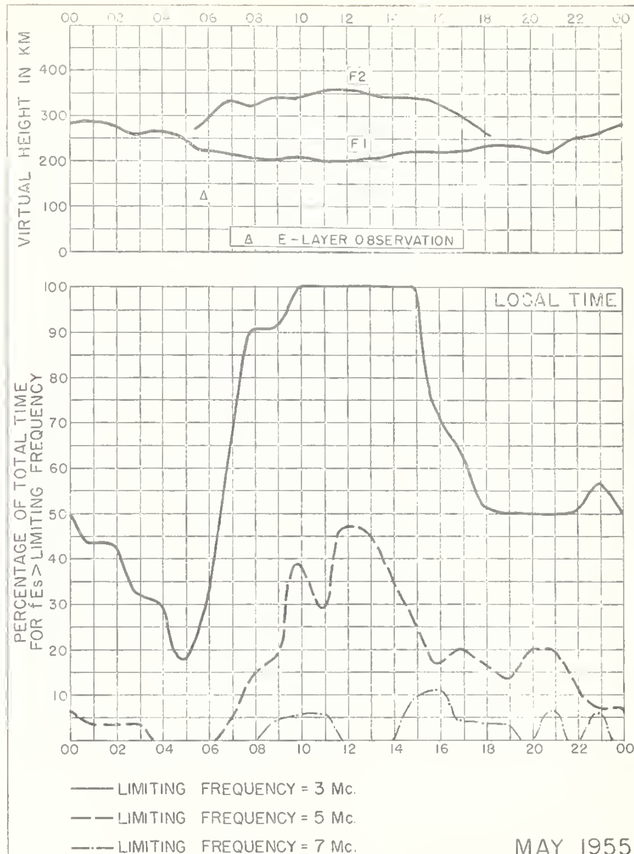


Fig. 57. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W MAY 1955



MAY 1955
Fig. 58. SAN FRANCISCO, CALIFORNIA

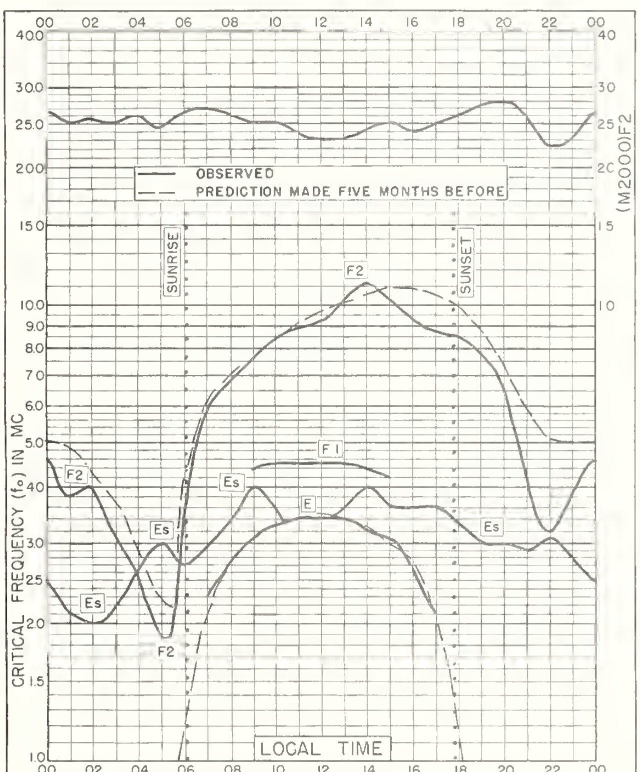
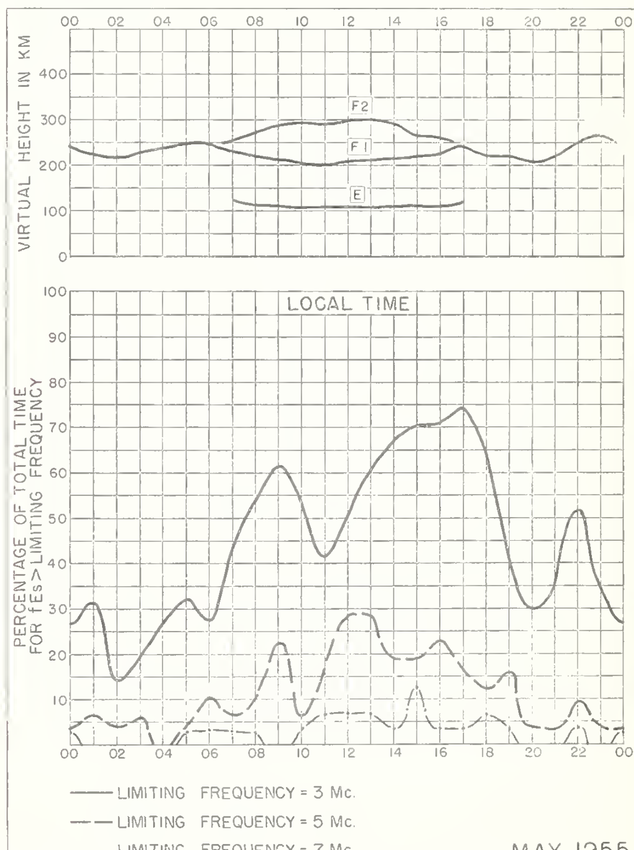


Fig. 59. LEOPOLDVILLE, BELGIAN CONGO
4.4°S, 15.2°E MAY 1955



MAY 1955
Fig. 60. LEOPOLDVILLE, BELGIAN CONGO

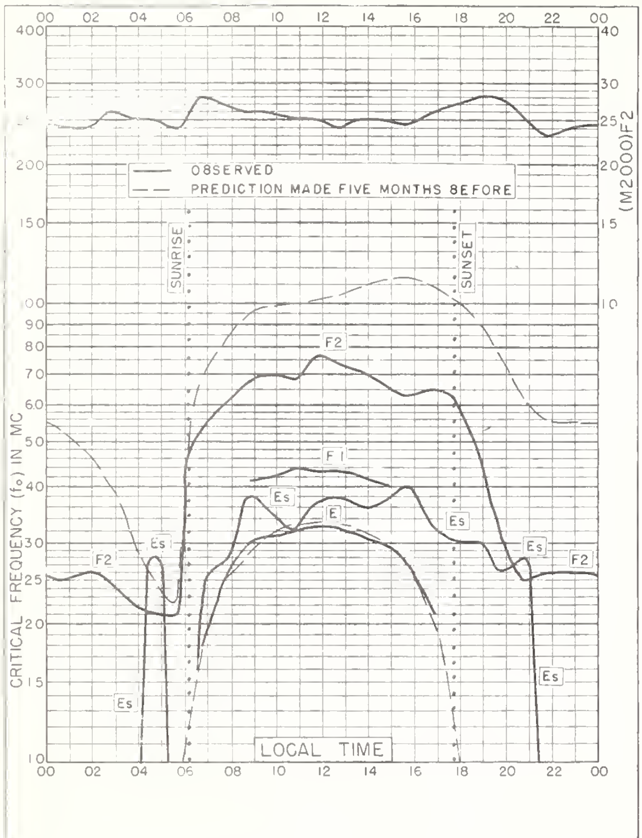
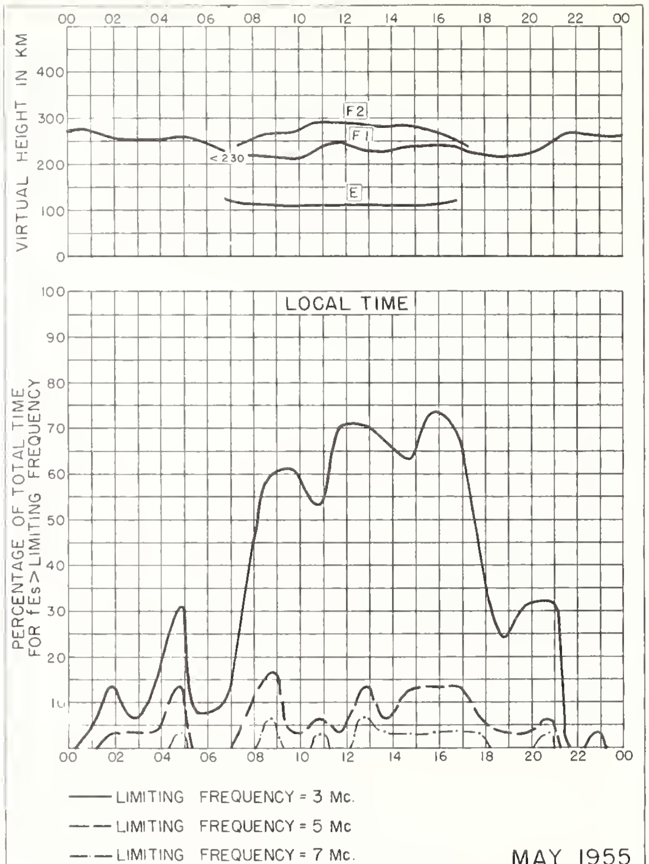


Fig. 61. ELISABETHVILLE, BELGIAN CONGO
11. 6°S, 27. 5°E MAY 1955



MAY 1955

Fig. 62. ELISABETHVILLE, BELGIAN CONGO

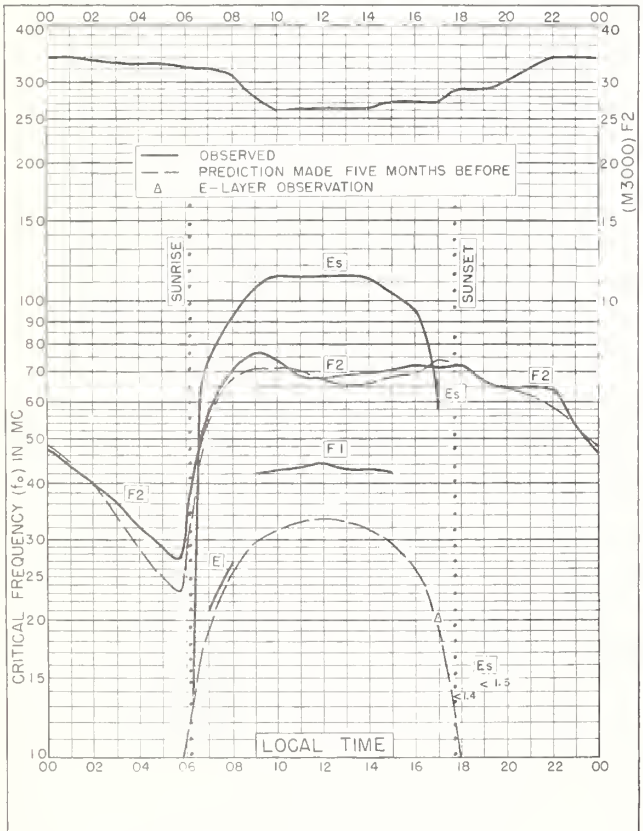


Fig. 63. HUANCAYO, PERU
12.0°S, 75.3°W MAY 1955

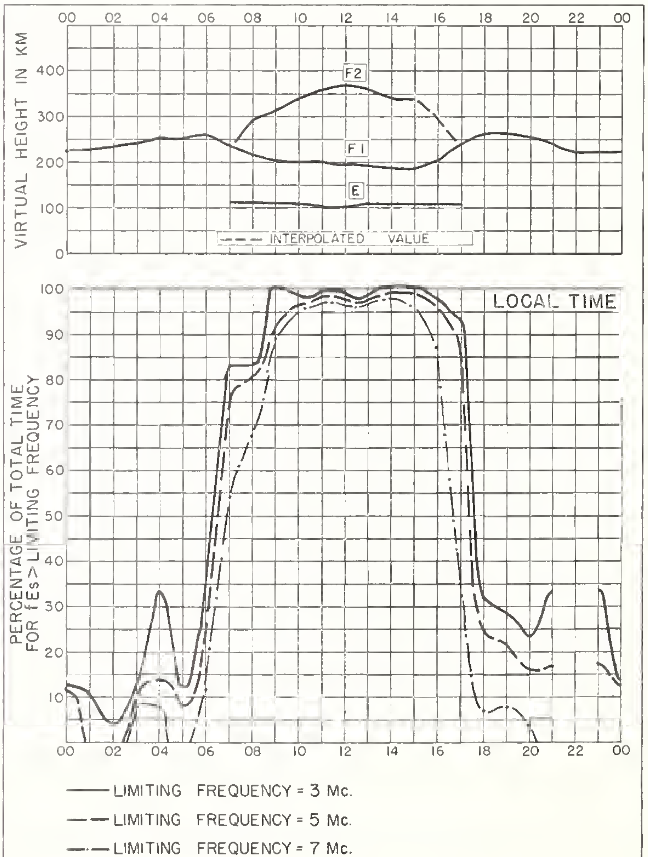


Fig. 64. HUANCAYO, PERU MAY 1955

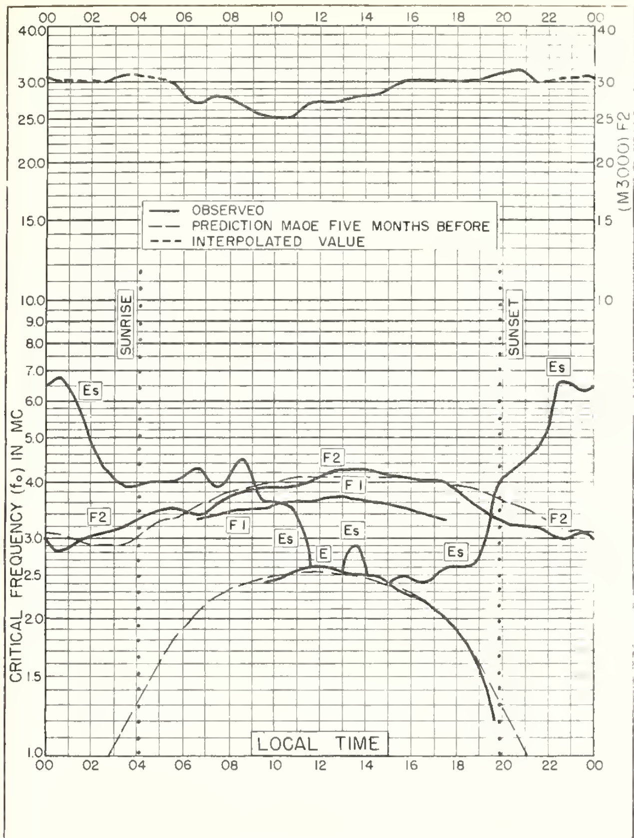


Fig. 65. POINT BARROW, ALASKA
71.3°N, 156.8°W APRIL 1955

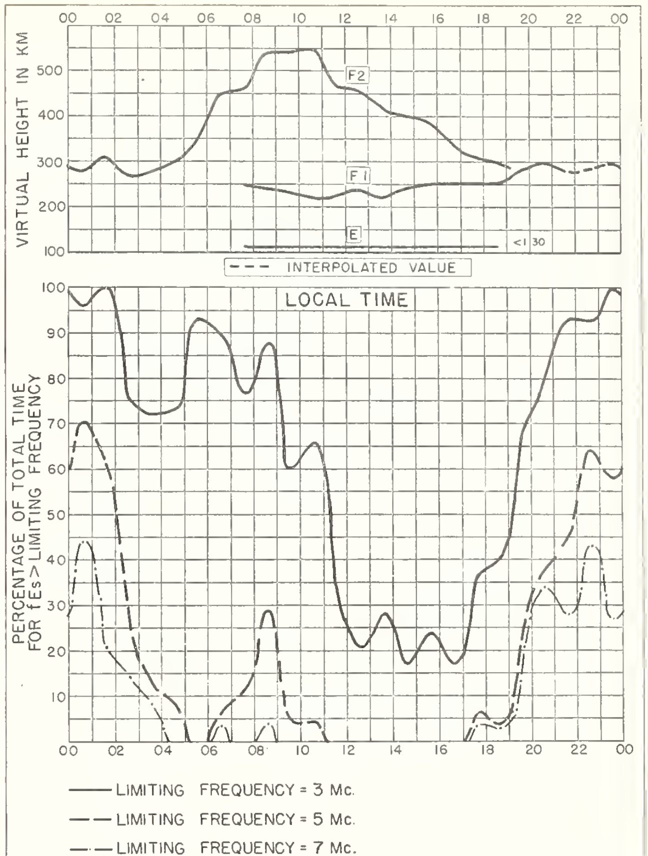


Fig. 66. POINT BARROW, ALASKA APRIL 1955

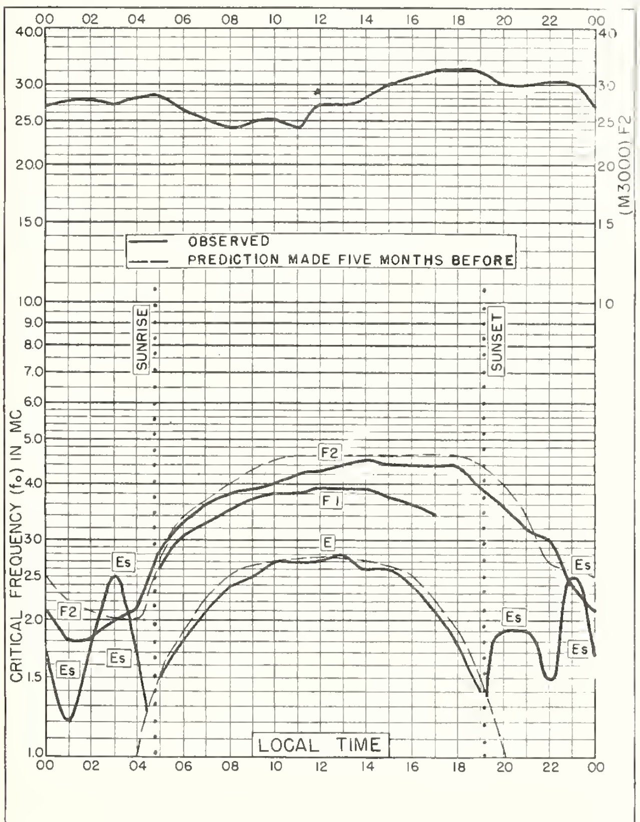


Fig. 67. ANCHORAGE, ALASKA
61.2°N, 149.9°W APRIL 1955

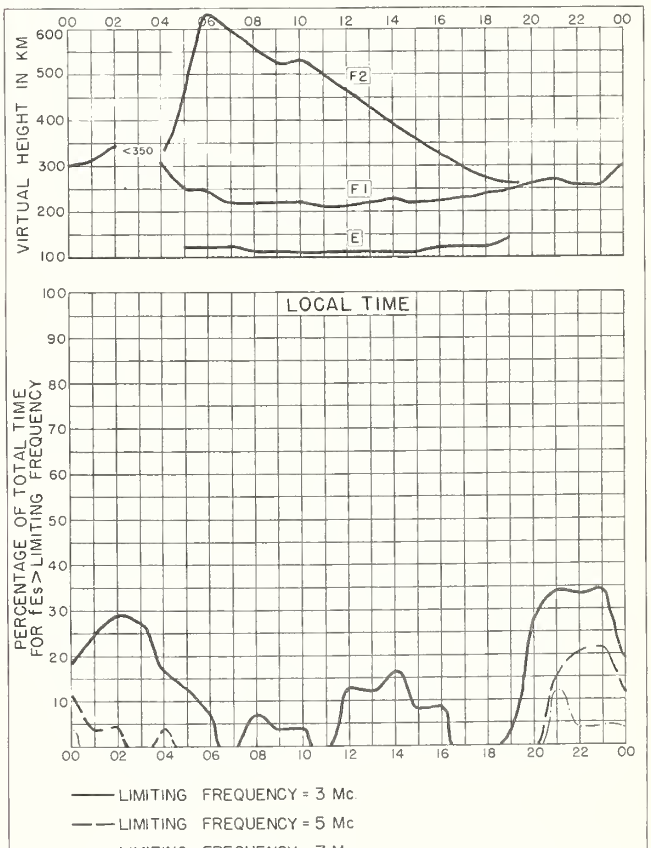


Fig. 68. ANCHORAGE, ALASKA APRIL 1955

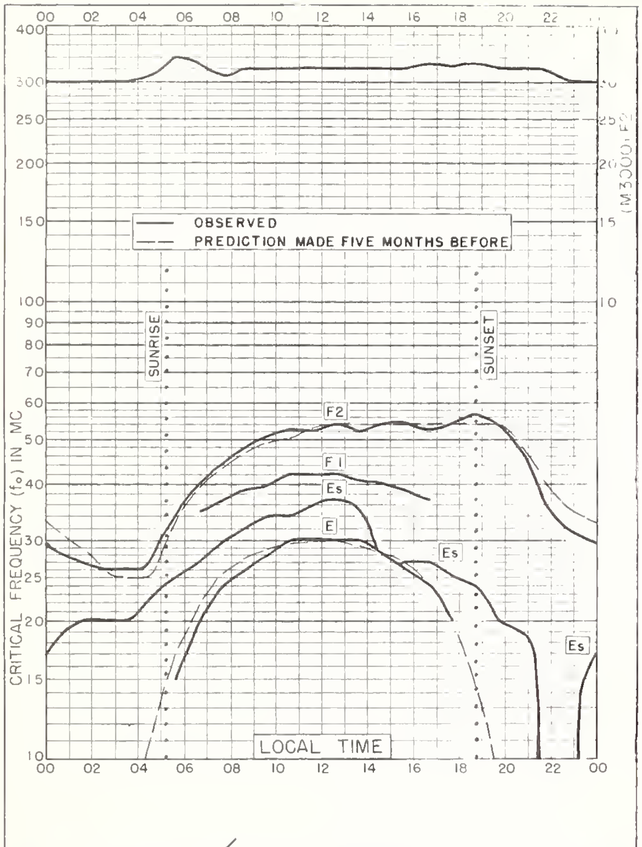


Fig. 69. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E APRIL 1955

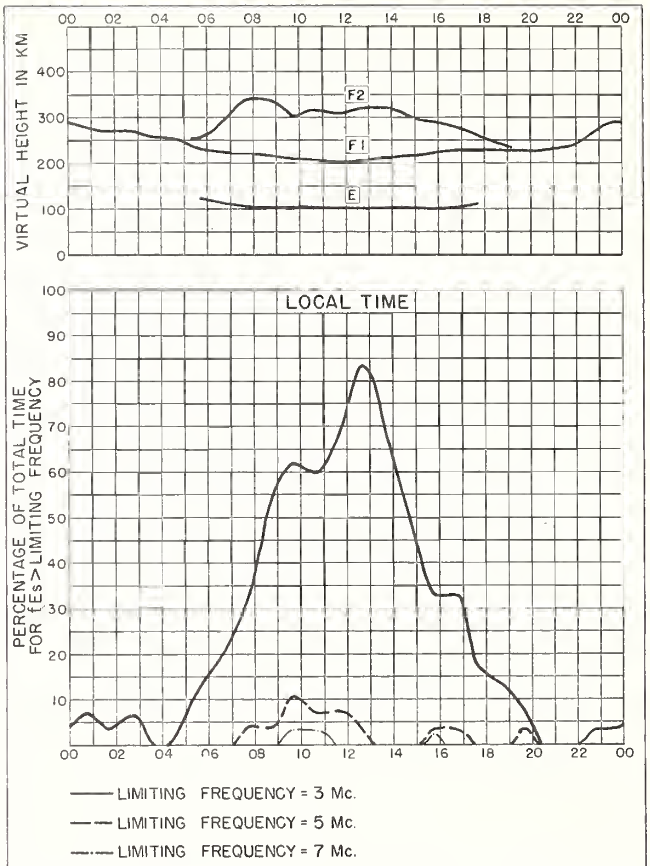


Fig. 70. LINDAU/HARZ, GERMANY APRIL 1955

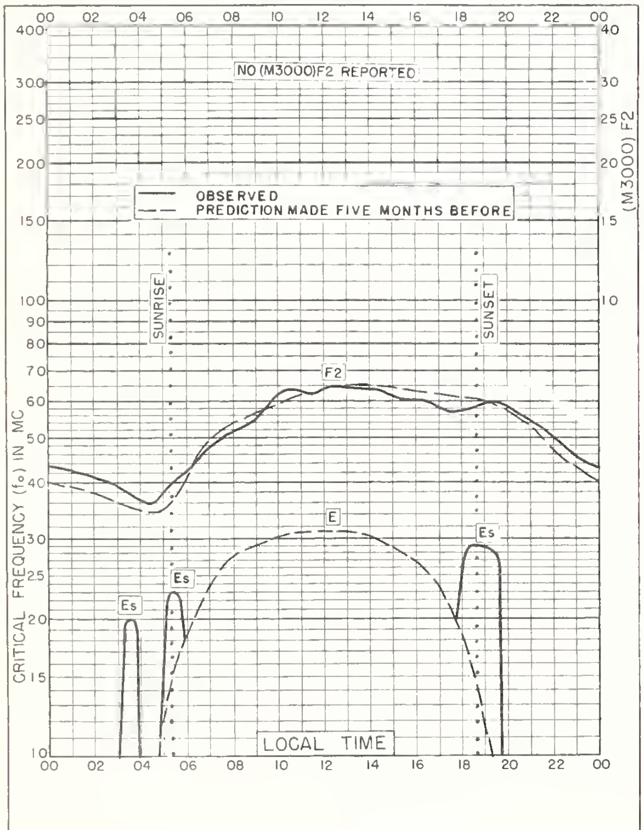


Fig. 71. WAKKANAI, JAPAN
45.4°N, 141.7°E APRIL 1955

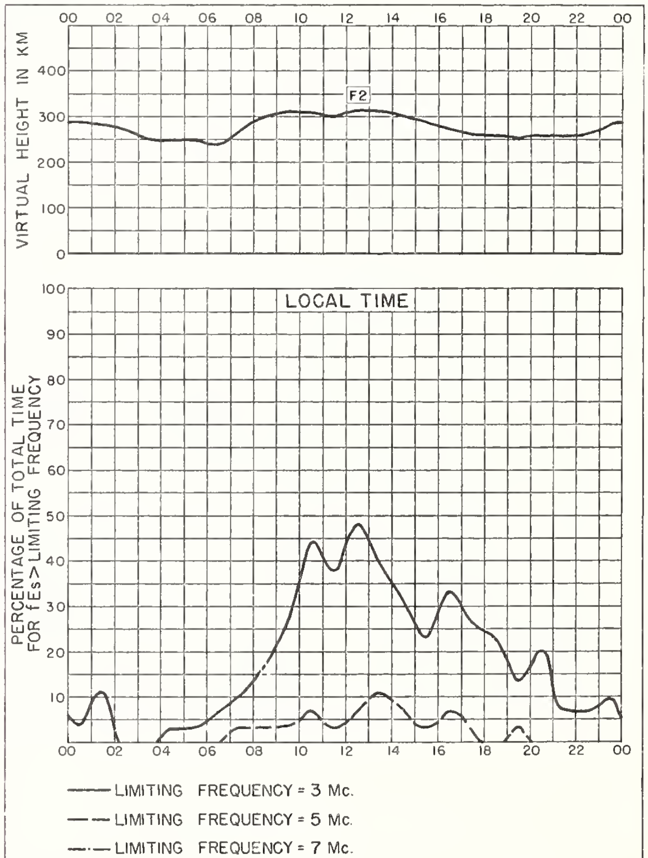


Fig. 72. WAKKANAI, JAPAN APRIL 1955

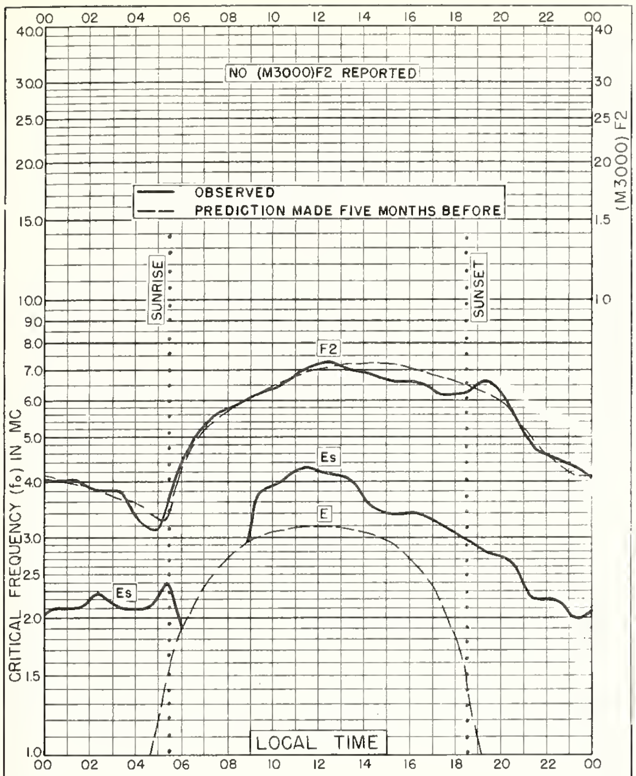


Fig. 73. AKITA, JAPAN
39.7°N, 140.1°E APRIL 1955

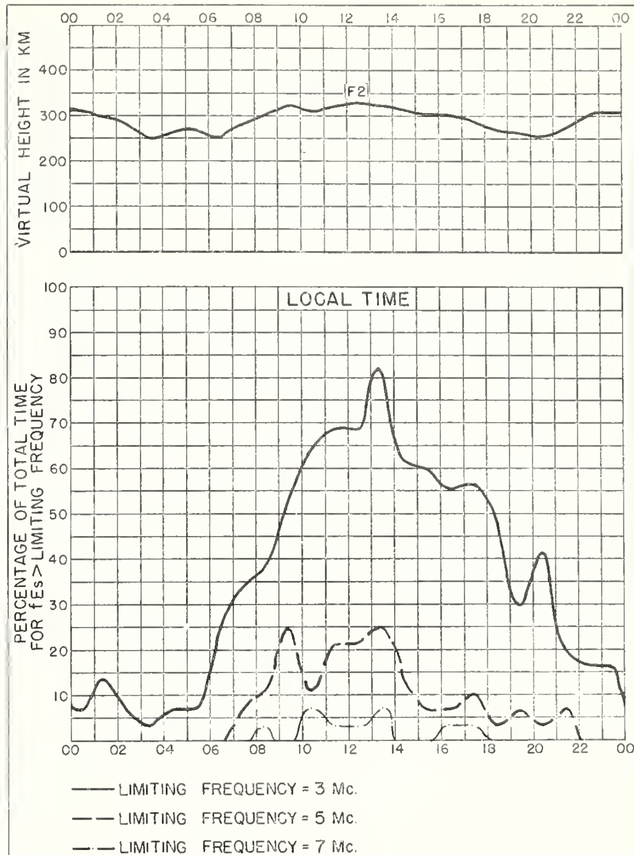


Fig. 74. AKITA, JAPAN APRIL 1955

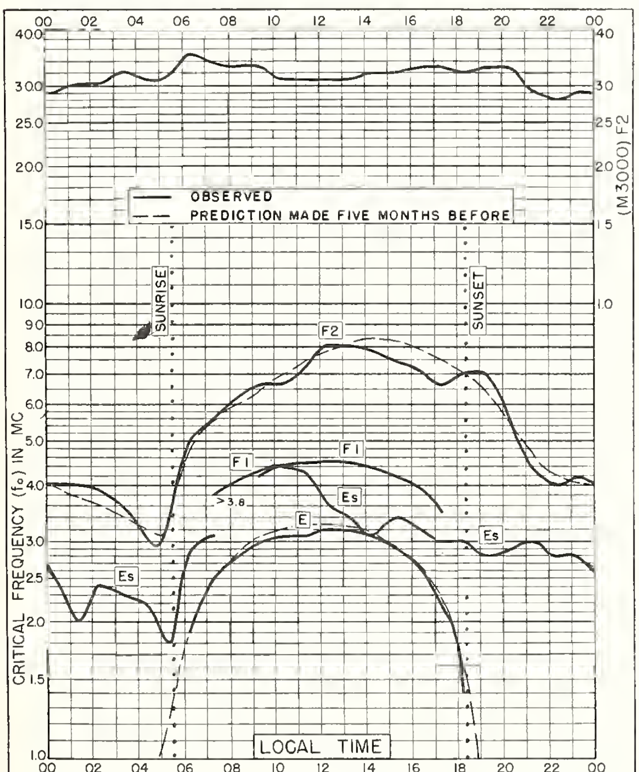


Fig. 75. TOKYO, JAPAN
35.7°N, 139.5°E APRIL 1955

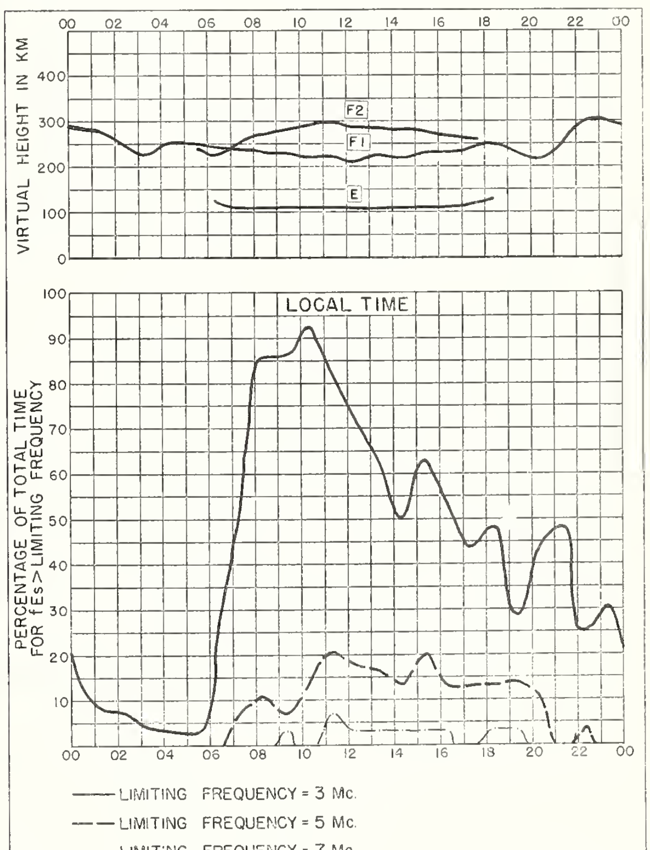


Fig. 76. TOKYO, JAPAN APRIL 1955

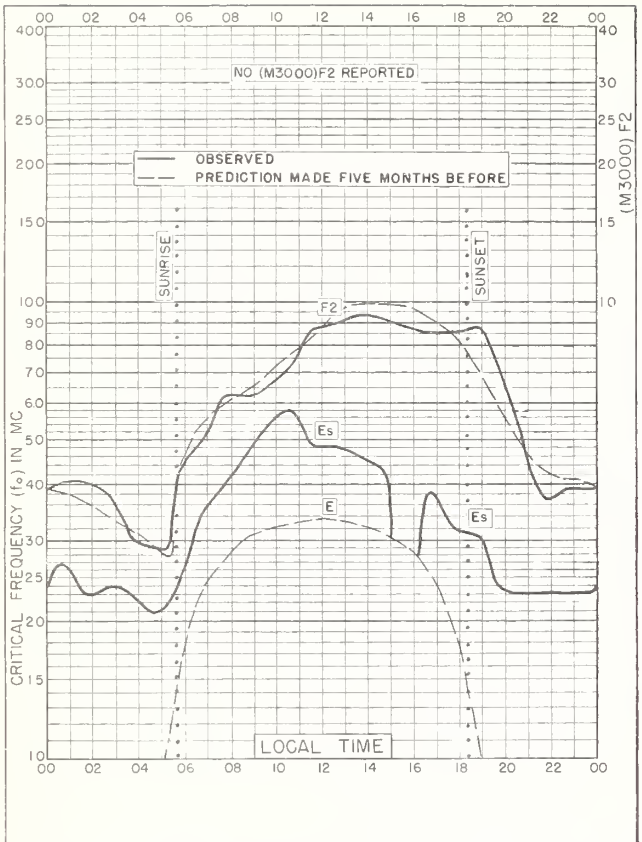


Fig. 77. YAMAGAWA, JAPAN
31. 2°N, 130. 6°E APRIL 1955

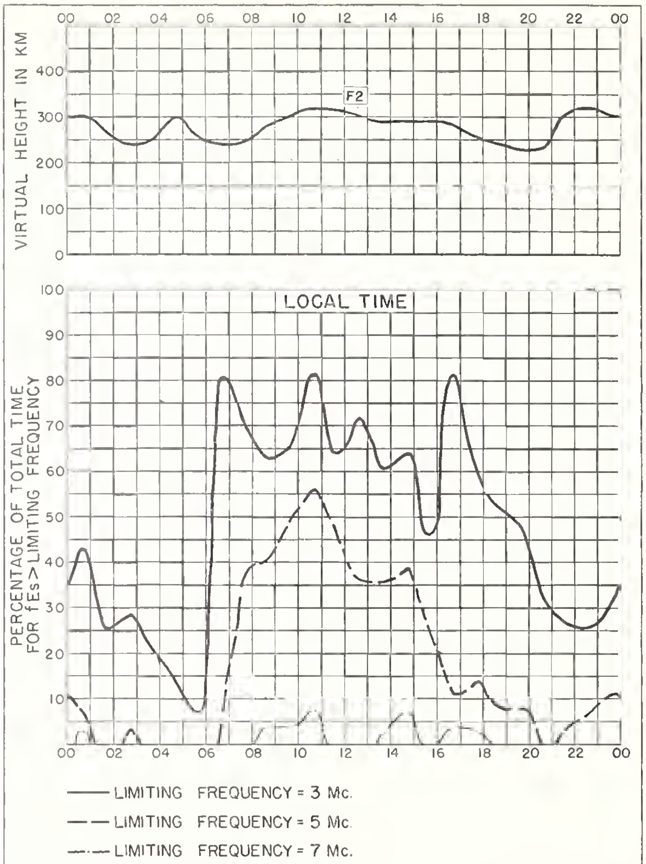


Fig. 78. YAMAGAWA, JAPAN APRIL 1955

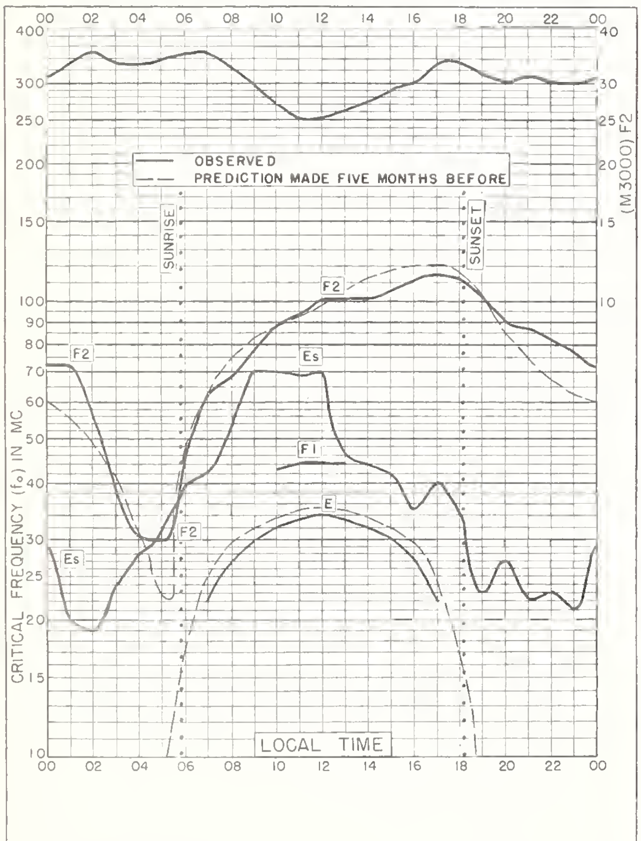


Fig. 79. BAGUIO, P. I.
16. 4°N, 120. 6°E APRIL 1955

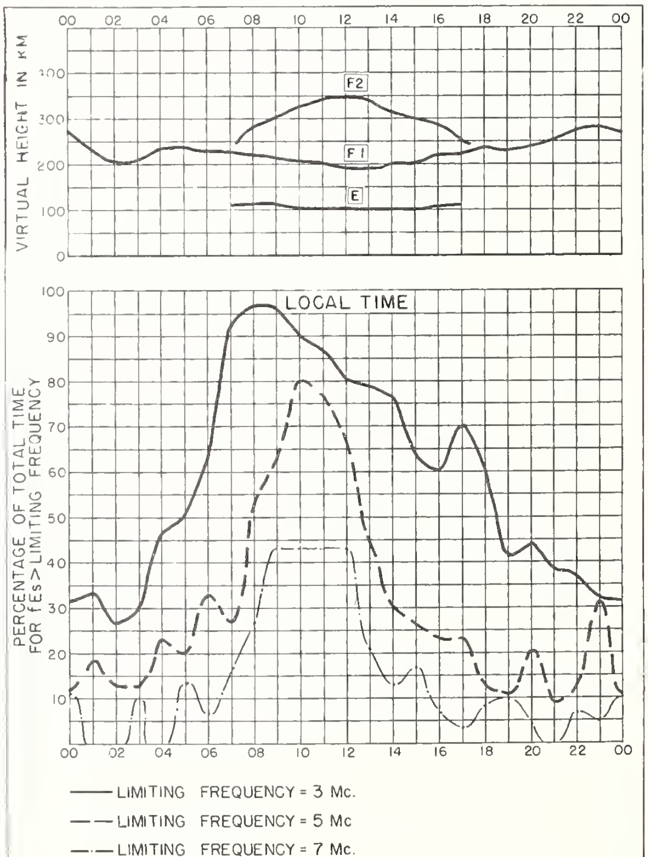


Fig. 80. BAGUIO, P. I. APRIL 1955

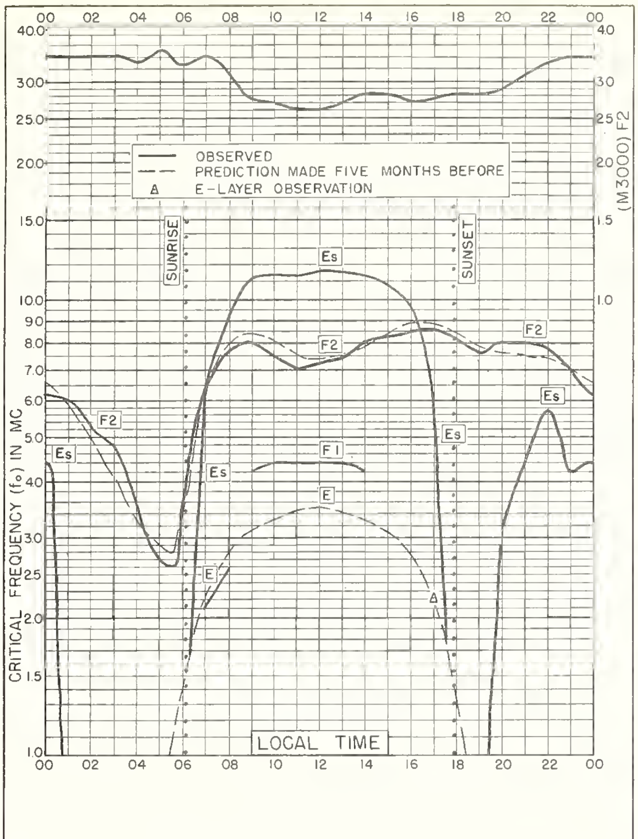


Fig. 81. HUANCAYO, PERU
12.0°S, 75.3°W APRIL 1955

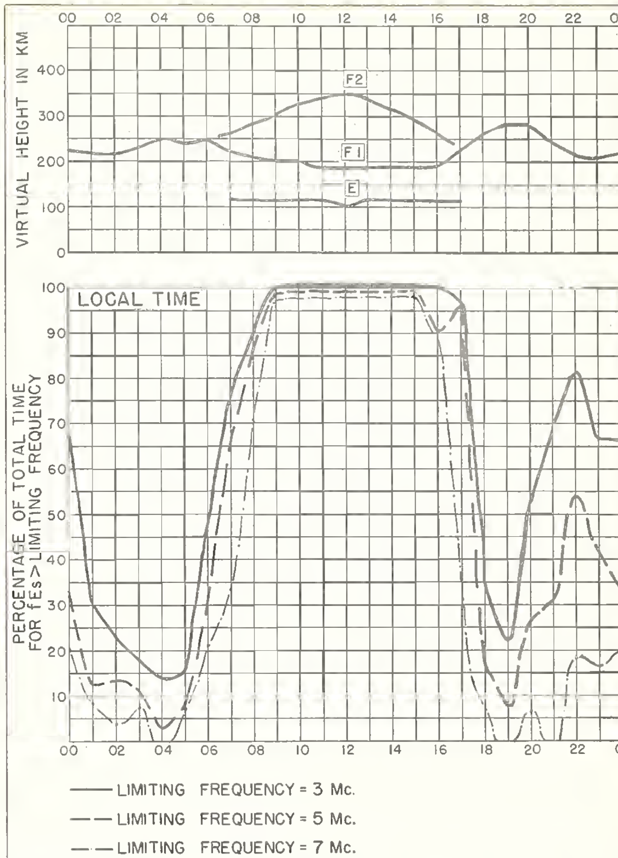


Fig. 82. HUANCAYO, PERU APRIL 1955

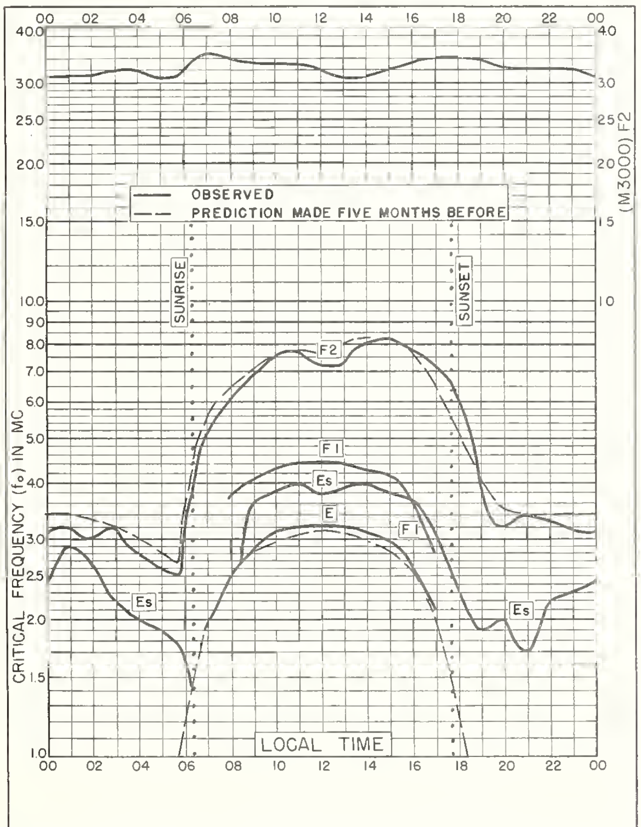
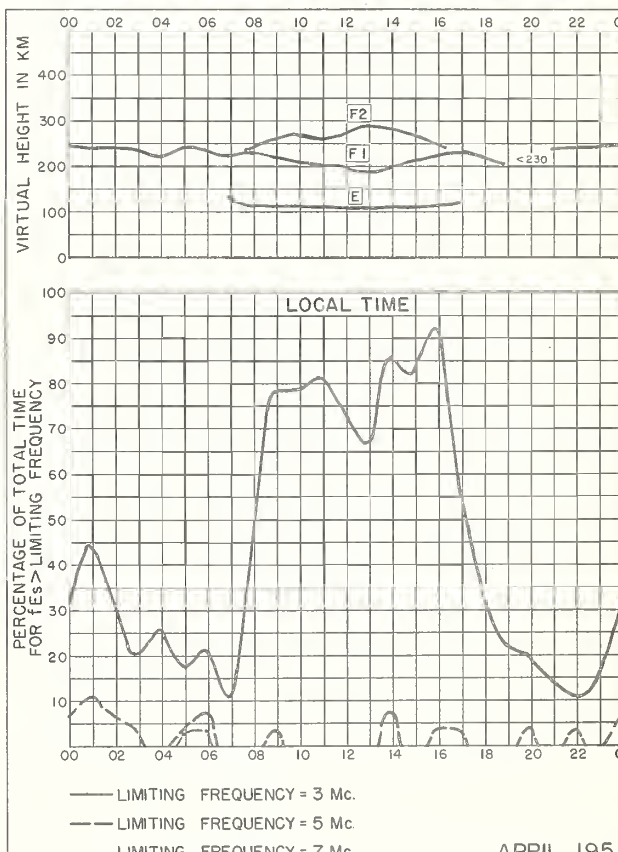


Fig. 83. JOHANNESBURG, UNION OF S. AFRICA
26.2°S, 28.1°E APRIL 1955



APRIL 1955
Fig. 84. JOHANNESBURG, UNION OF S. AFRICA

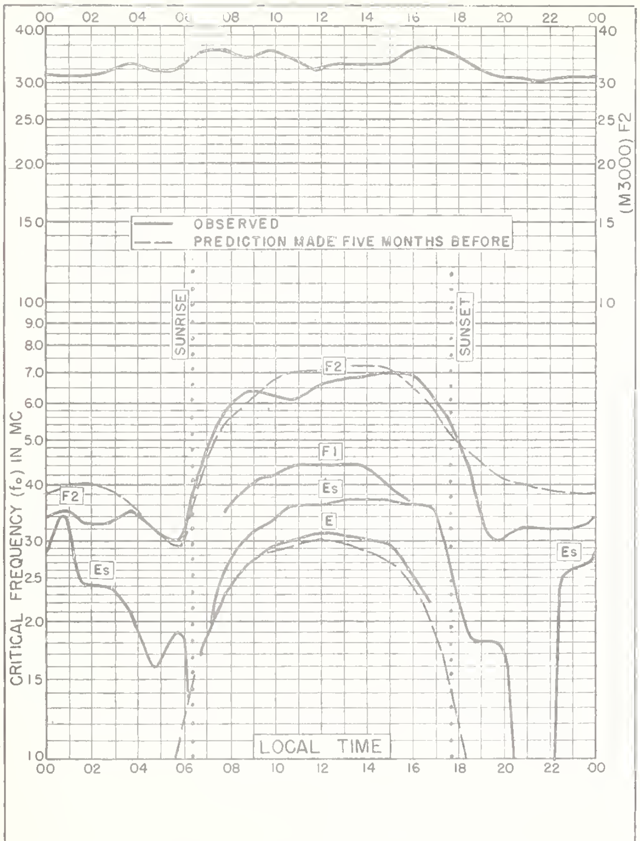


Fig. 85. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E APRIL 1955

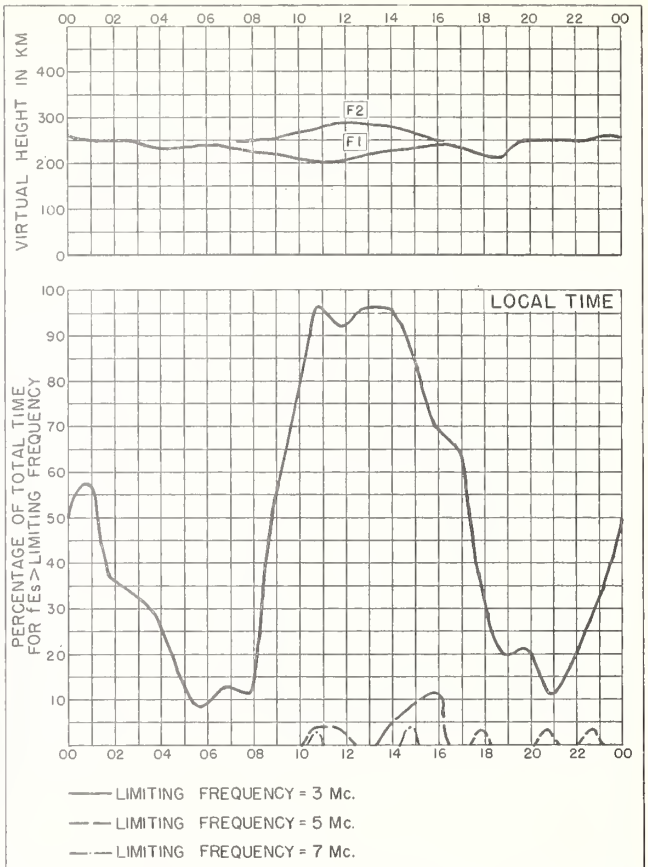


Fig. 86. WATHEROO, W. AUSTRALIA APRIL 1955

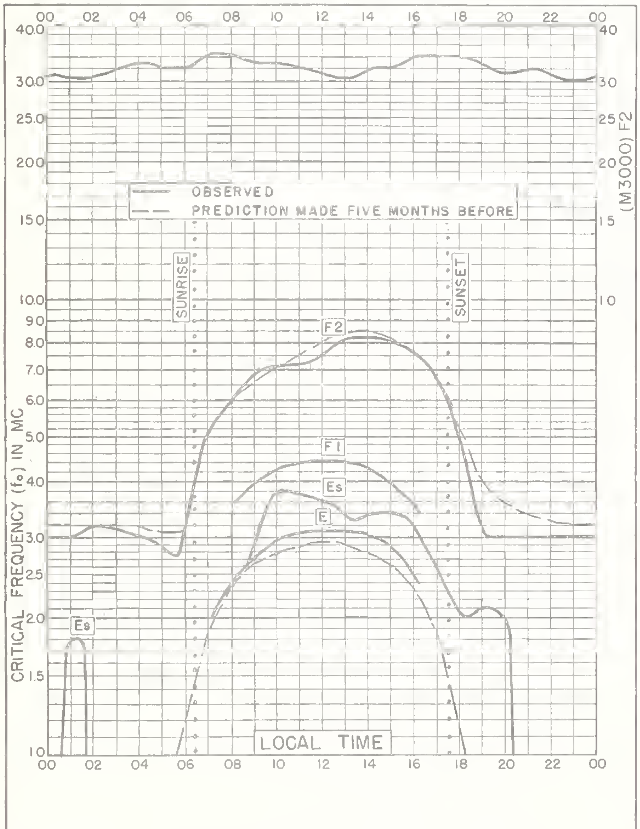
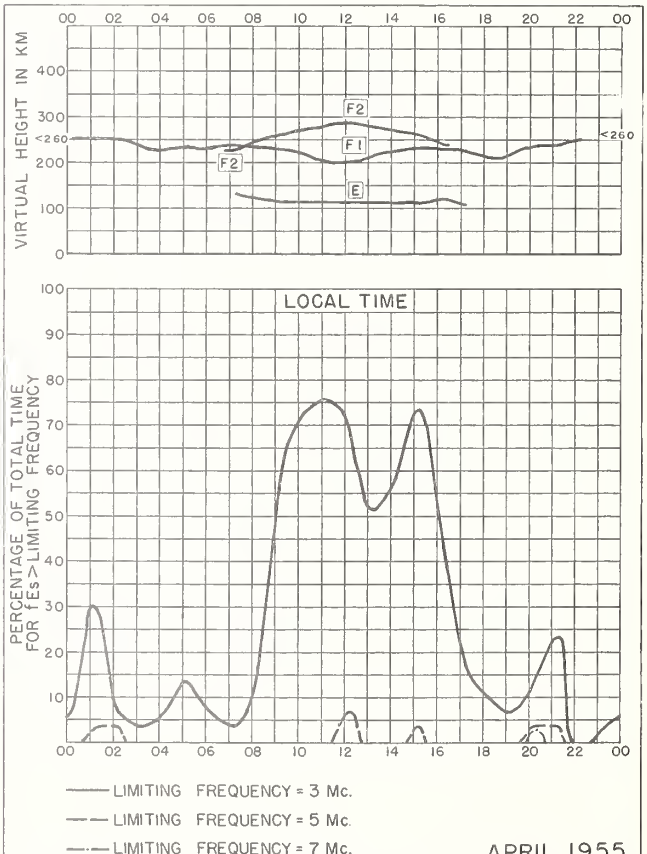


Fig. 87. CAPETOWN, UNION OF S. AFRICA
34.2° S, 18.3°E APRIL 1955



APRIL 1955
Fig. 88. CAPETOWN, UNION OF S. AFRICA

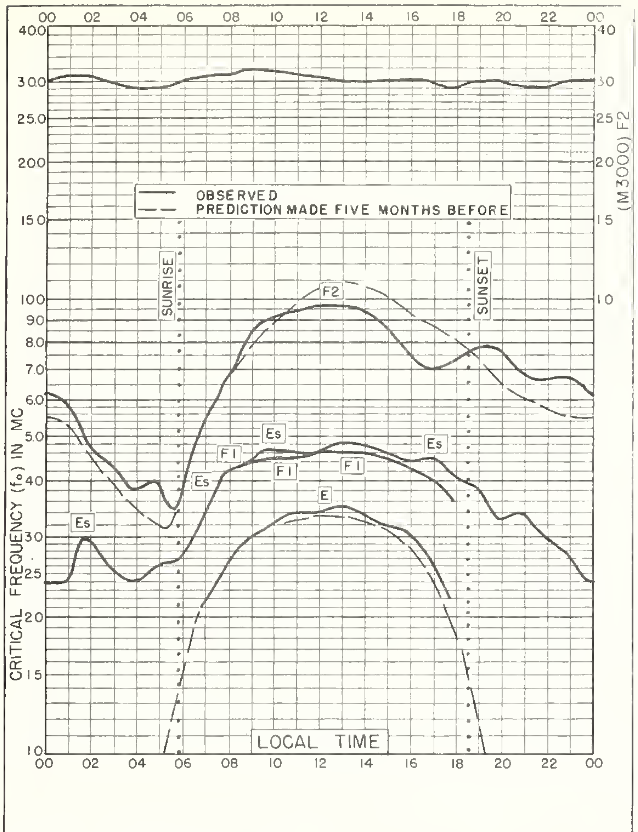


Fig. 89. RAROTONGA I.
21.3°S, 159.8°W FEBRUARY 1955

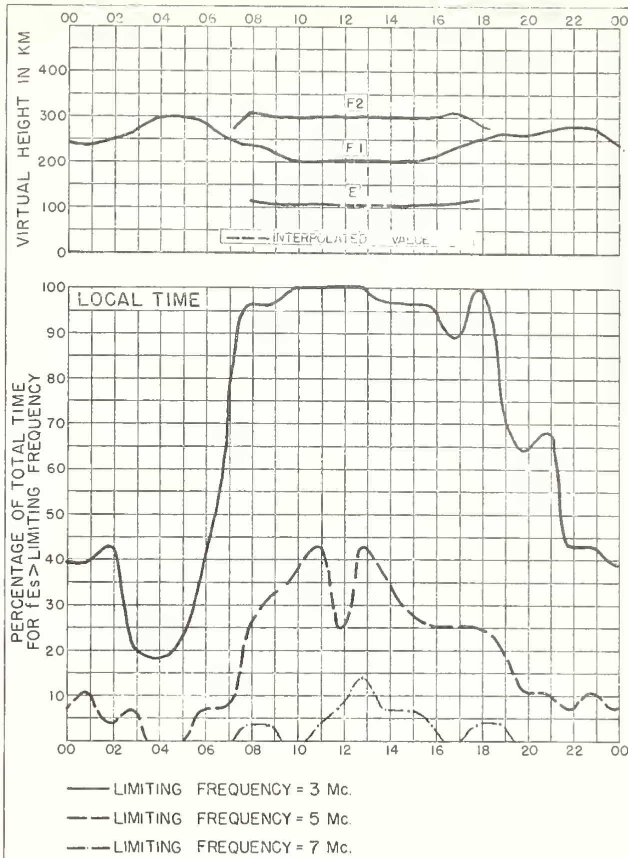


Fig. 90. RAROTONGA I. FEBRUARY 1955

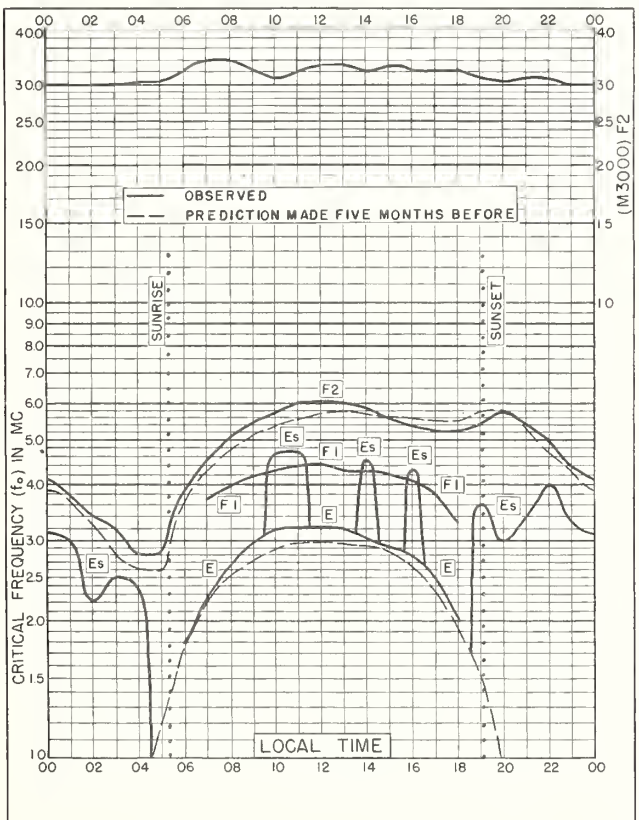
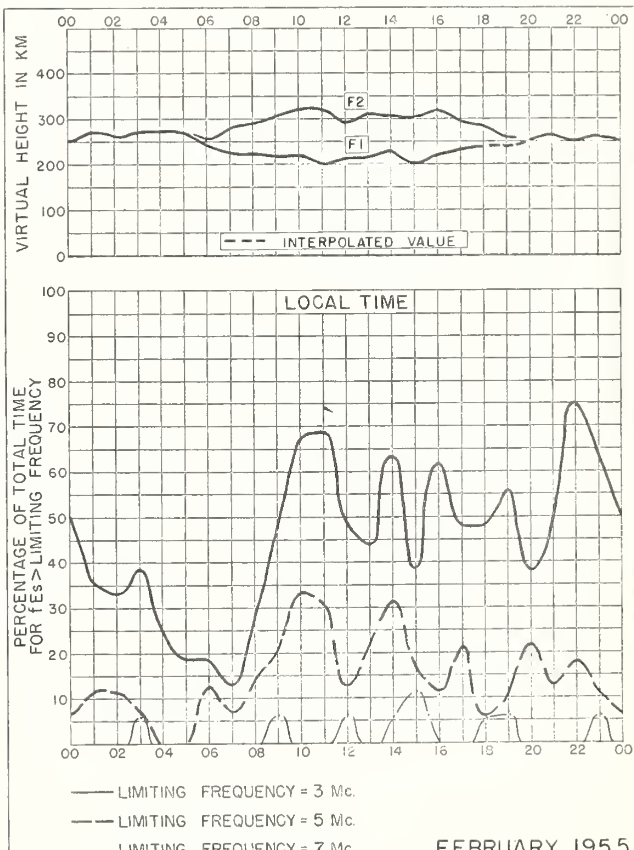


Fig. 91. CHRISTCHURCH, NEW ZEALAND
43.6°S, 172.8°E FEBRUARY 1955



FEBRUARY 1955
Fig. 92. CHRISTCHURCH, NEW ZEALAND

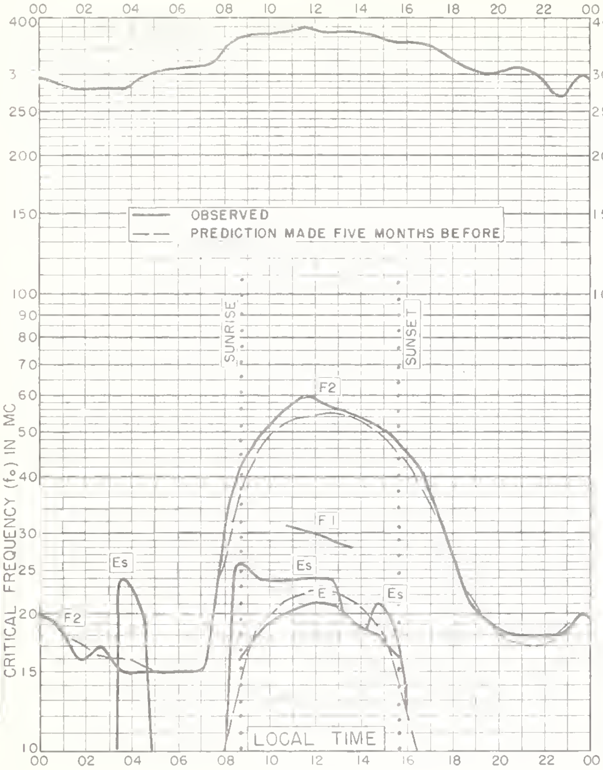
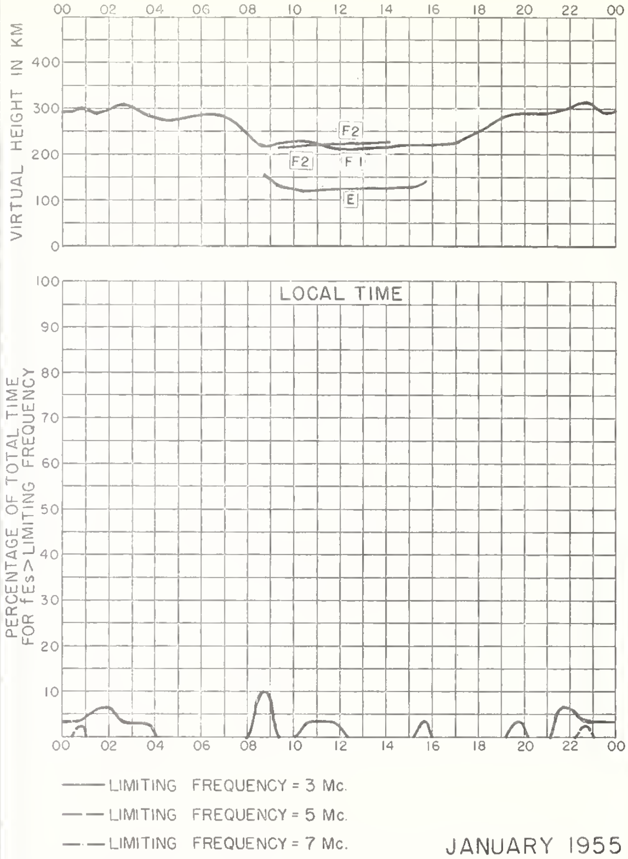


Fig. 93. INVERNESS, SCOTLAND
57.4°N, 4.2°W JANUARY 1955



JANUARY 1955
Fig. 94. INVERNESS, SCOTLAND

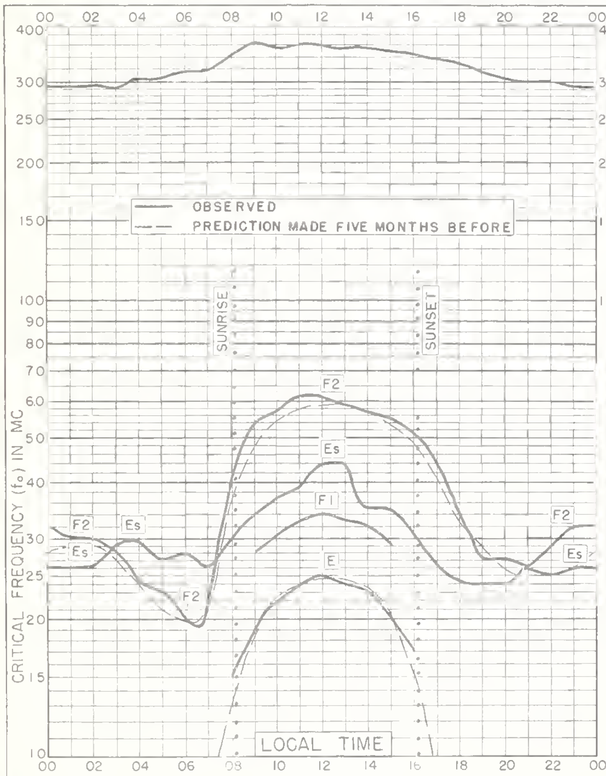


Fig. 95. SLOUGH, ENGLAND
51.5°N, 0.6°W JANUARY 1955

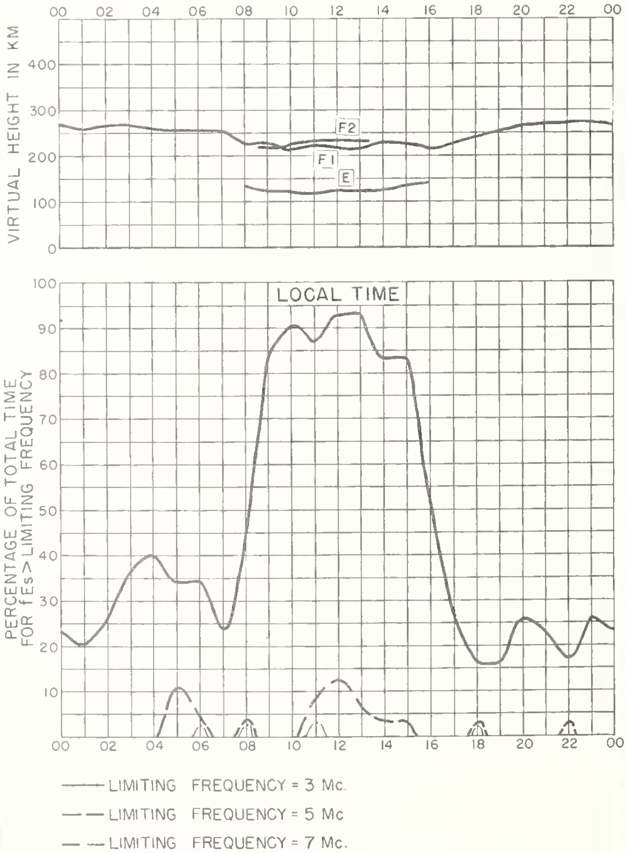


Fig. 96. SLOUGH, ENGLAND JANUARY 1955

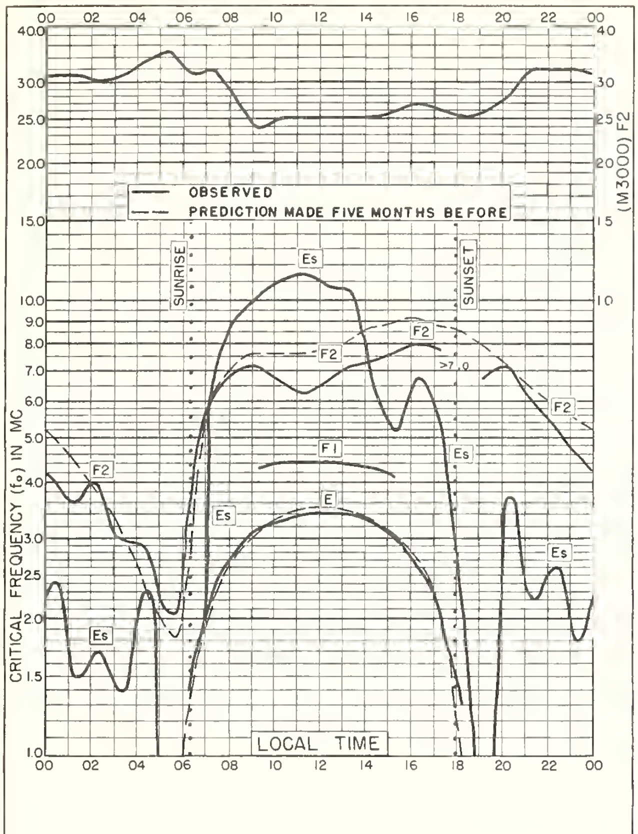


Fig. 97. IBADAN, NIGERIA
7.4°N, 4.0°E JANUARY 1955

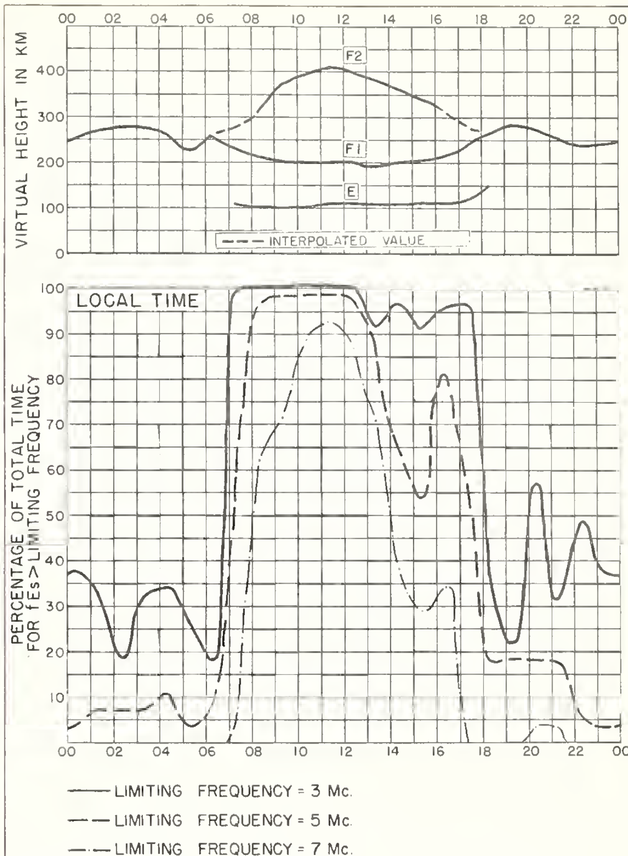


Fig. 98. IBADAN, NIGERIA JANUARY 1955

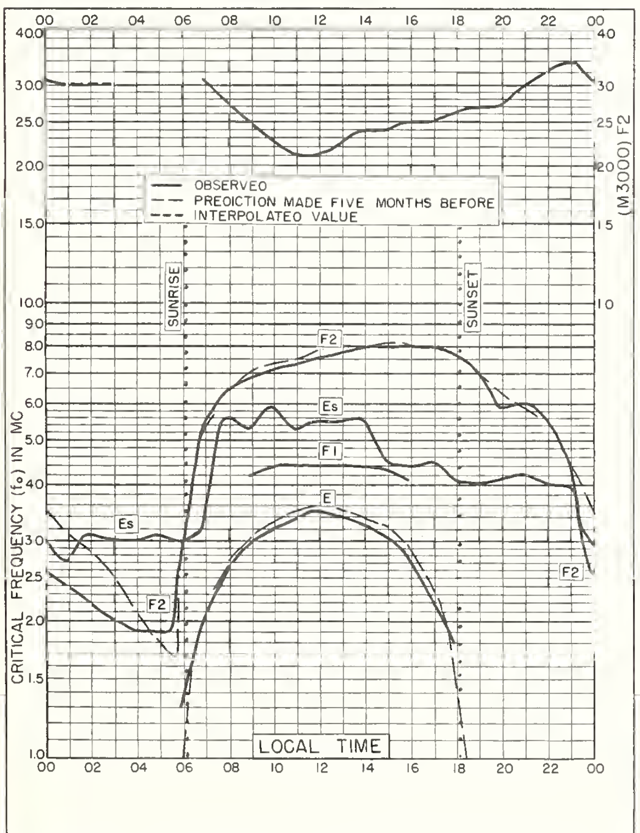
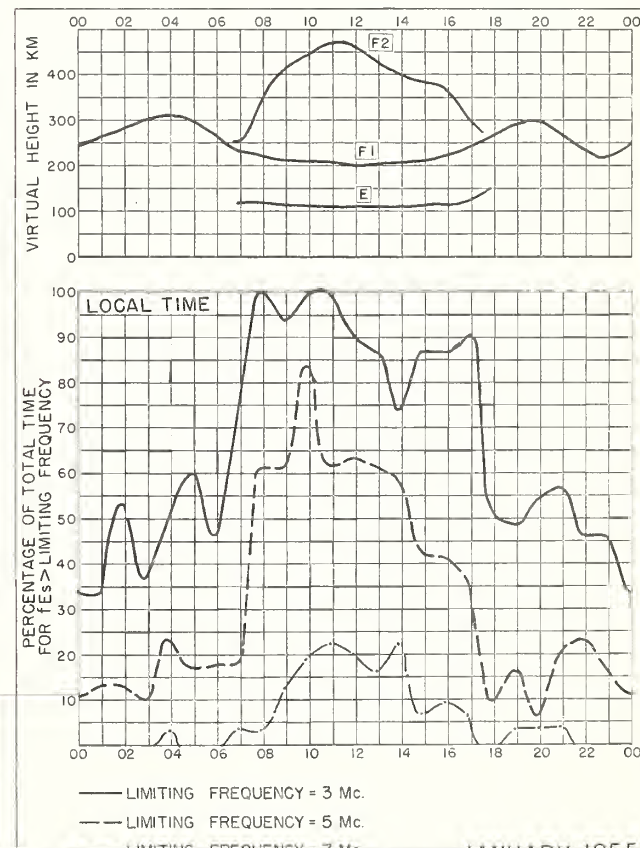


Fig. 99. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E JANUARY 1955



JANUARY 1955
Fig. 100. SINGAPORE, BRITISH MALAYA

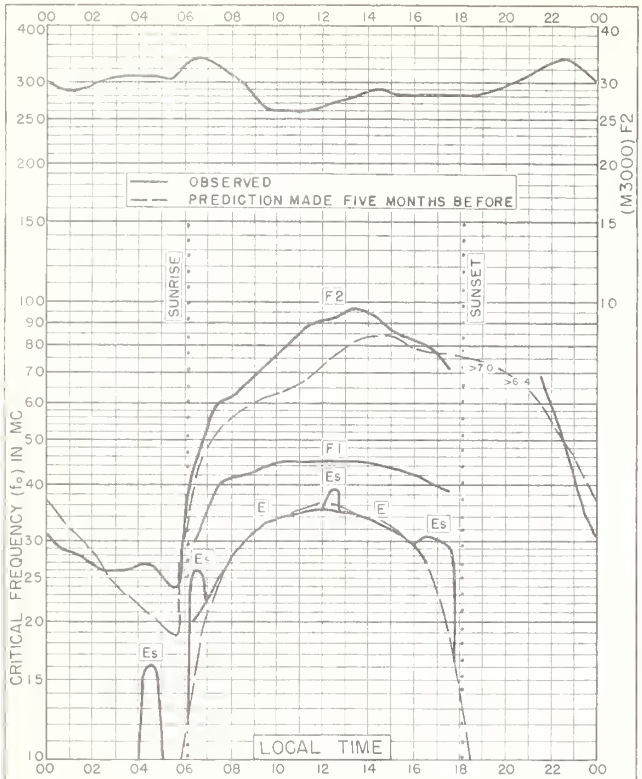


Fig. 101. NAIROBI, KENYA
1.3°S, 36.8°E JANUARY 1955

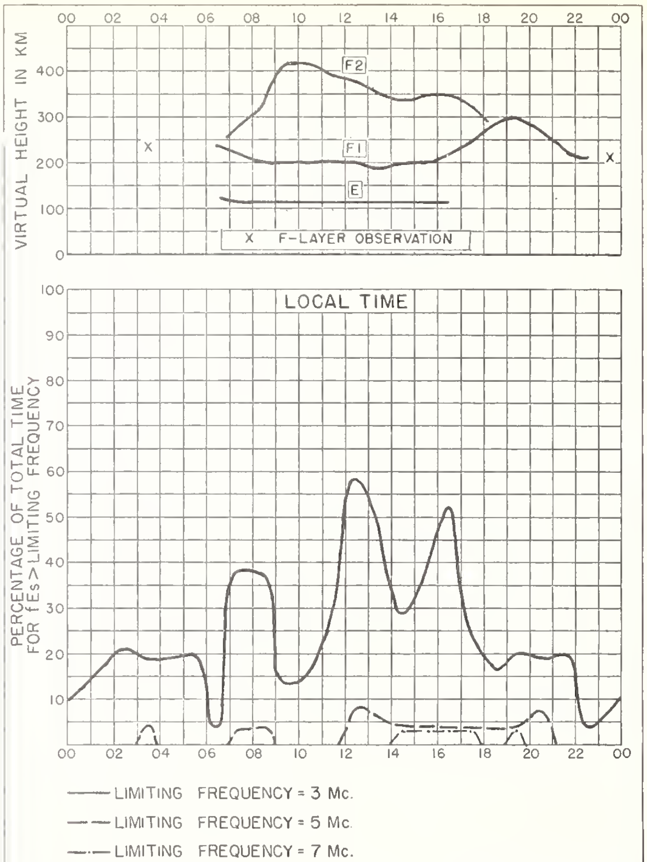


Fig. 102. NAIROBI, KENYA JANUARY 1955

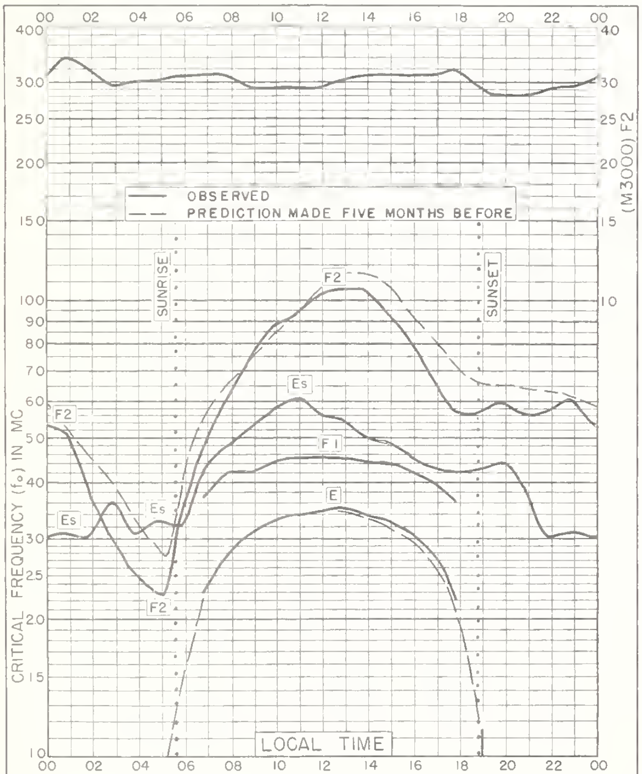


Fig. 103. RAROTONGA I.
21.3°S, 159.8°W JANUARY 1955

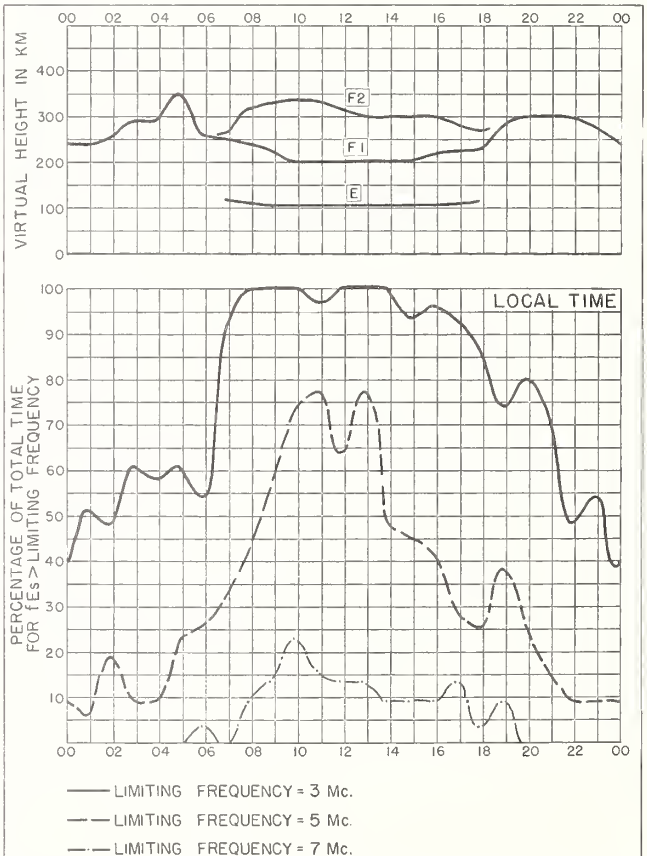


Fig. 104. RAROTONGA I. JANUARY 1955

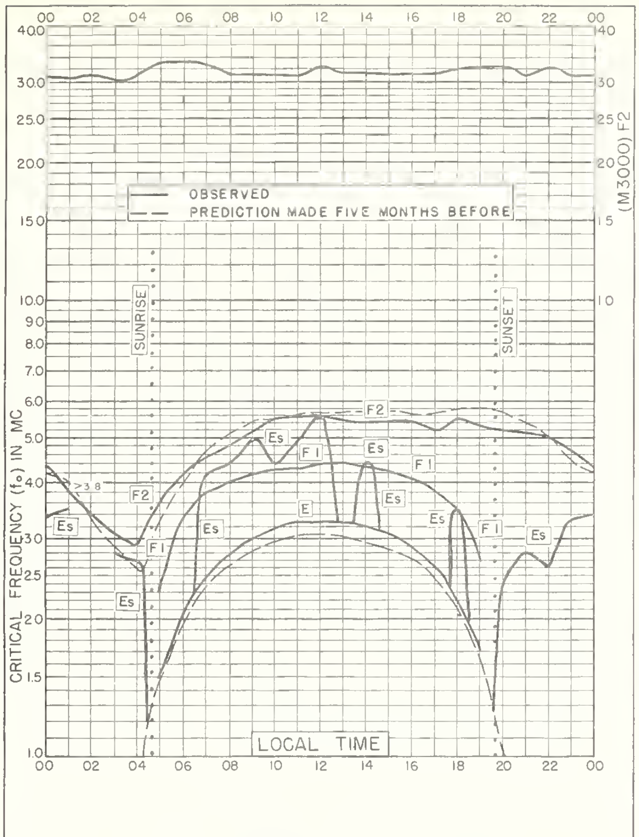
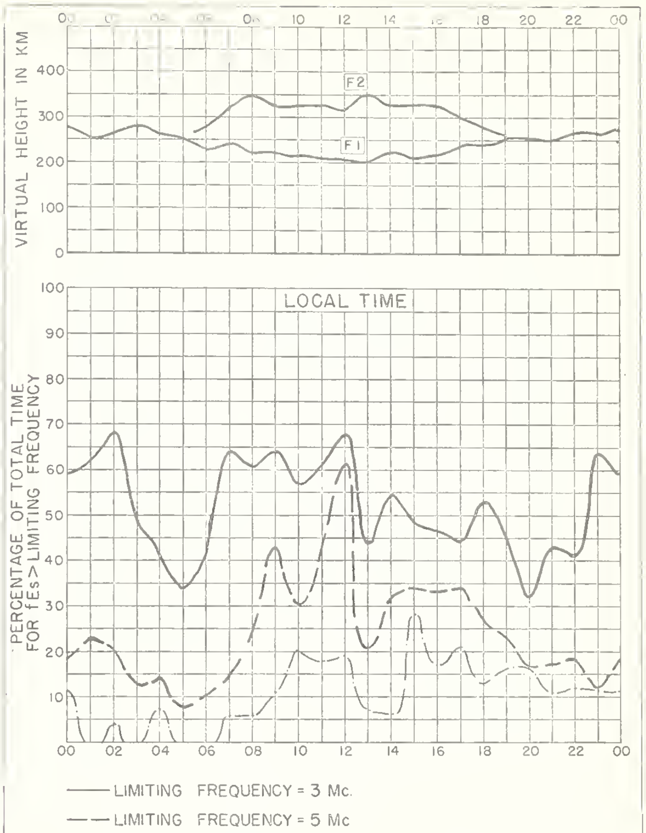


Fig. 105. CHRISTCHURCH, NEW ZEALAND
43. 6°S, 172. 8°E JANUARY 1955



JANUARY 1955
Fig. 106. CHRISTCHURCH, NEW ZEALAND

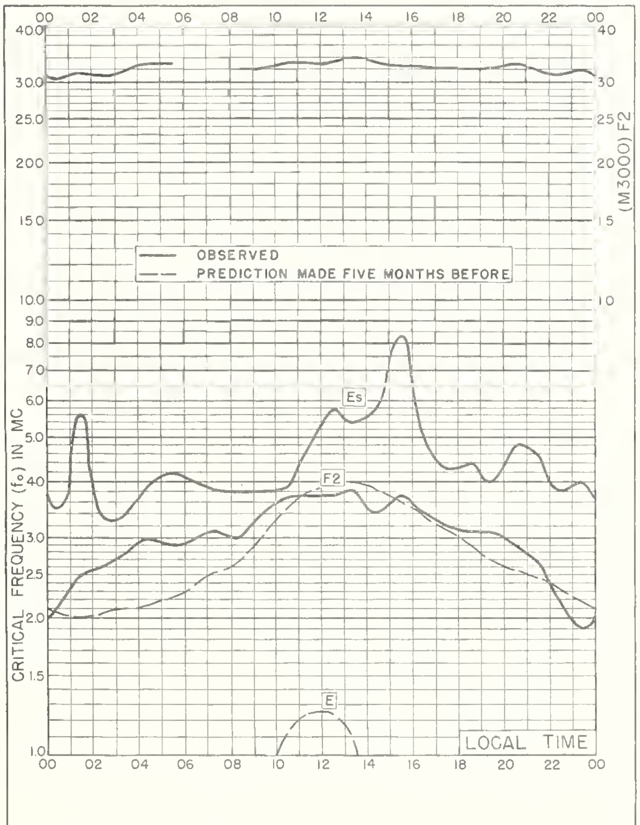
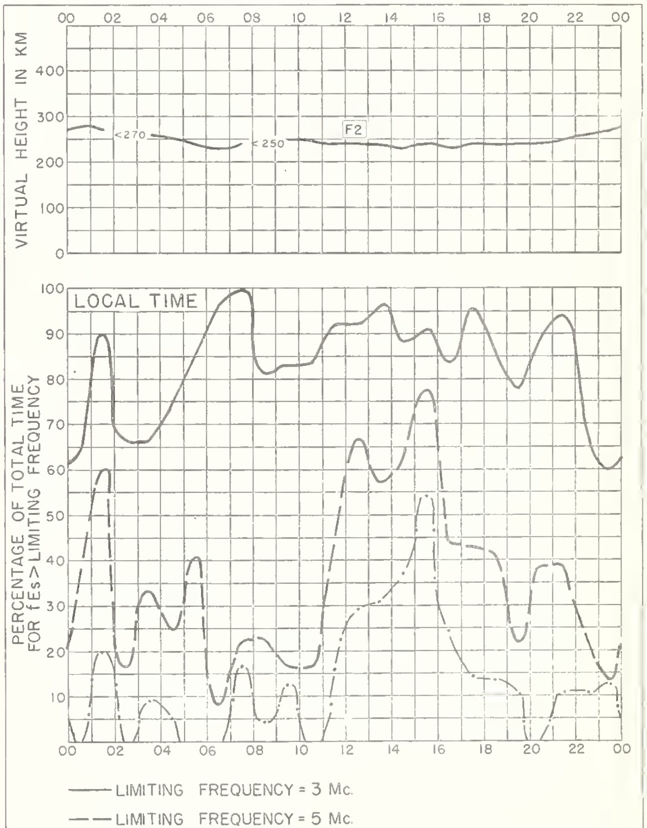


Fig. 107. GODHAVN, GREENLAND
69. 2°N, 53.5°W DECEMBER 1954



DECEMBER 1954
Fig. 108. GODHAVN, GREENLAND

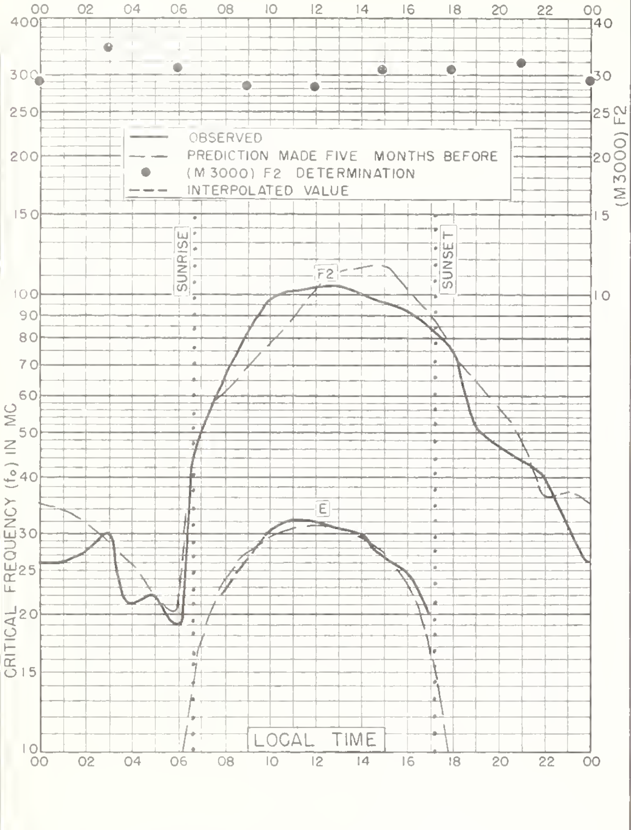


Fig. 109. CALCUTTA, INDIA
22.6°N, 88.4°E DECEMBER 1954

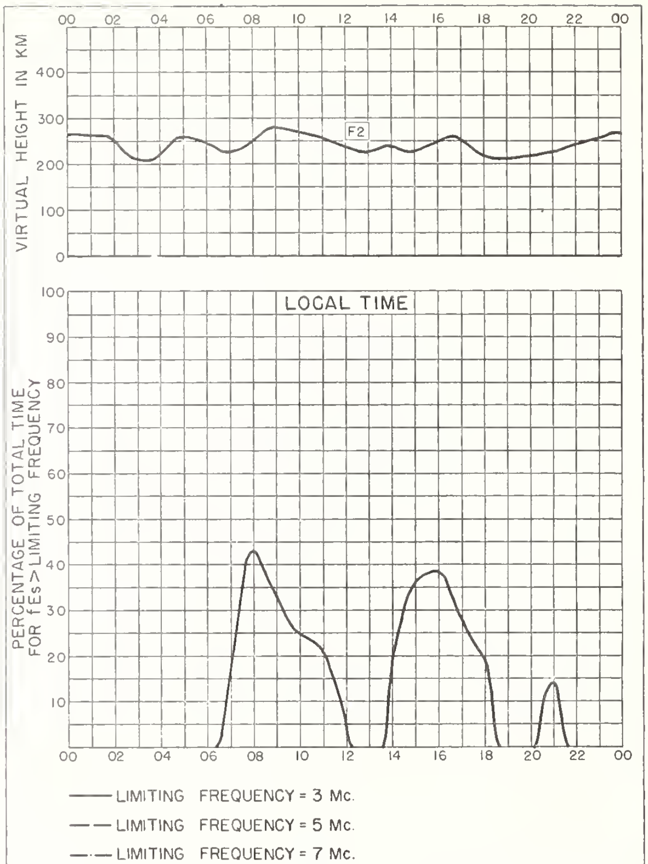


Fig. 110. CALCUTTA, INDIA DECEMBER 1954

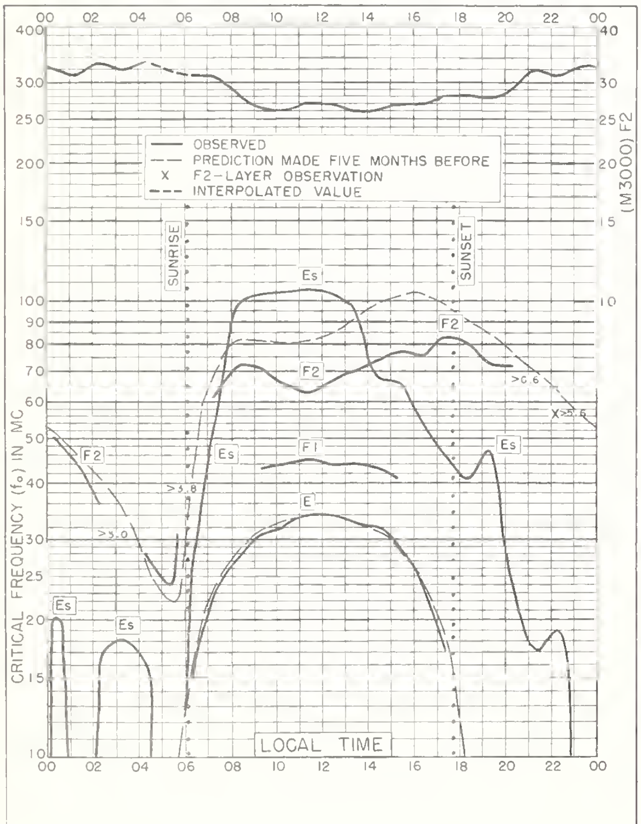


Fig. 111. IBADAN, NIGERIA
7.4°N, 4.0°E DECEMBER 1954

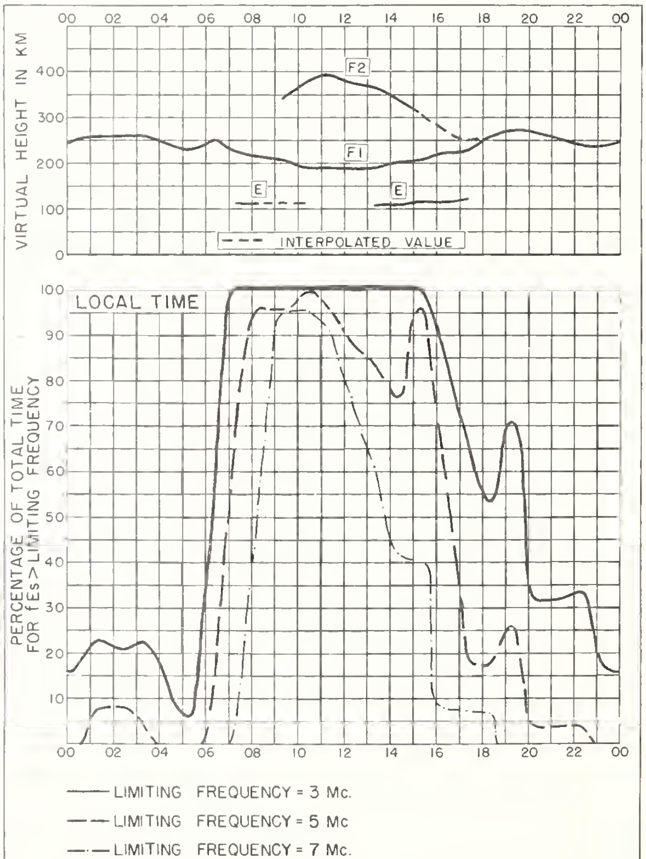


Fig. 112. IBADAN, NIGERIA DECEMBER 1954

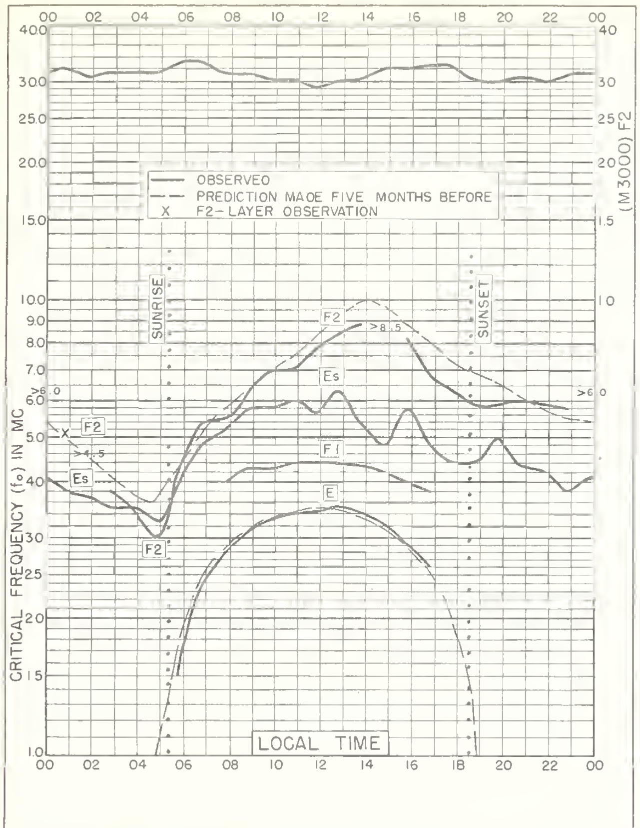
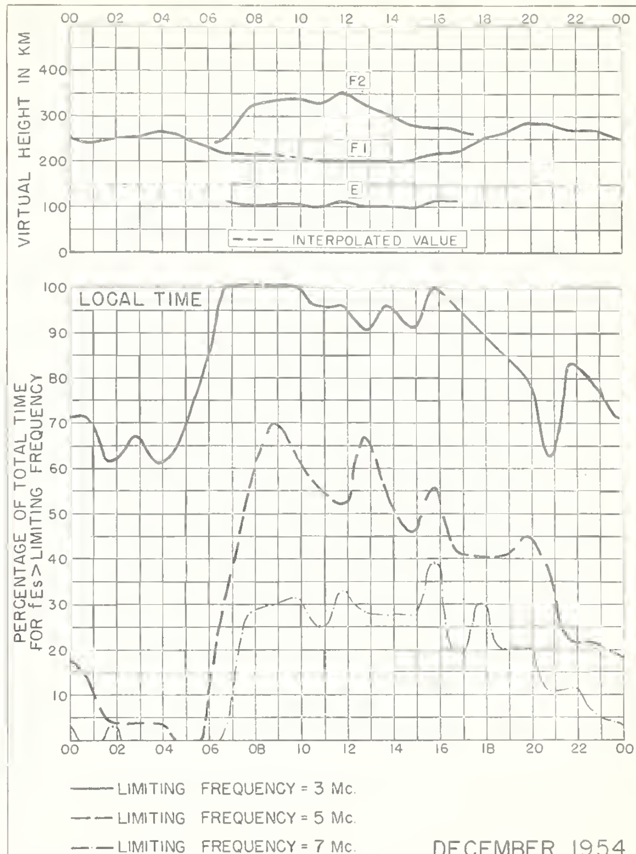


Fig. 113. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E DECEMBER 1954



DECEMBER 1954
Fig. 114. TOWNSVILLE, AUSTRALIA

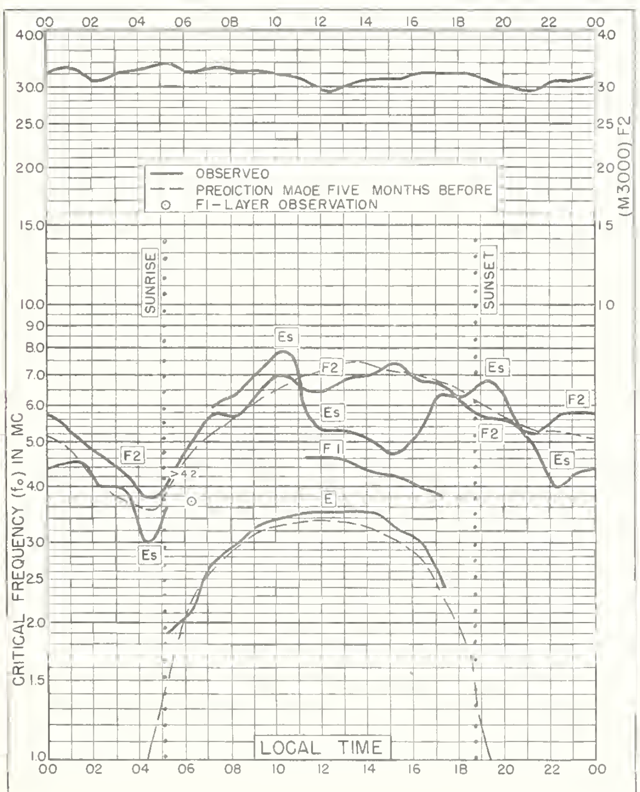
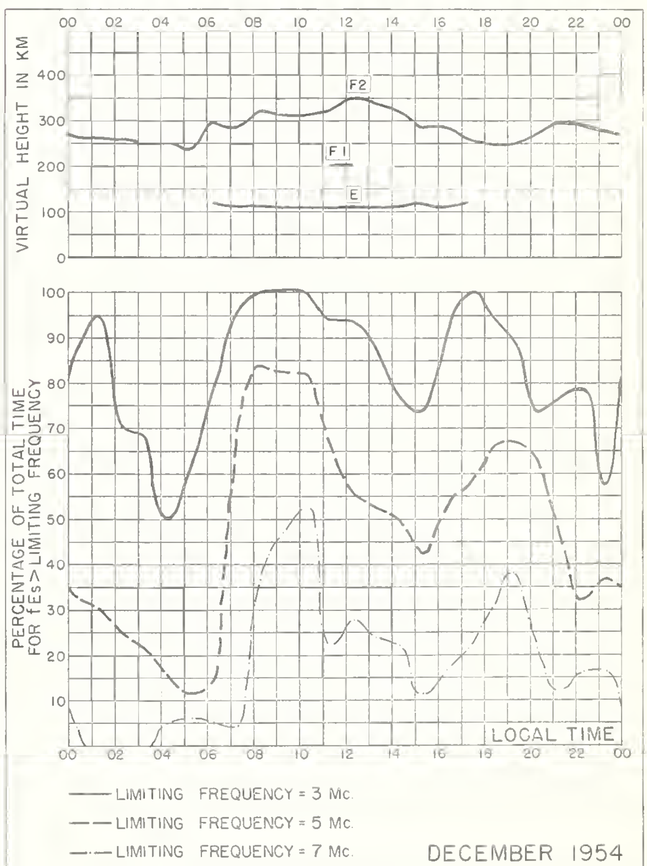


Fig. 115. BRISBANE, AUSTRALIA
27.5°S, 153.0°E DECEMBER 1954



DECEMBER 1954
Fig. 116. BRISBANE, AUSTRALIA

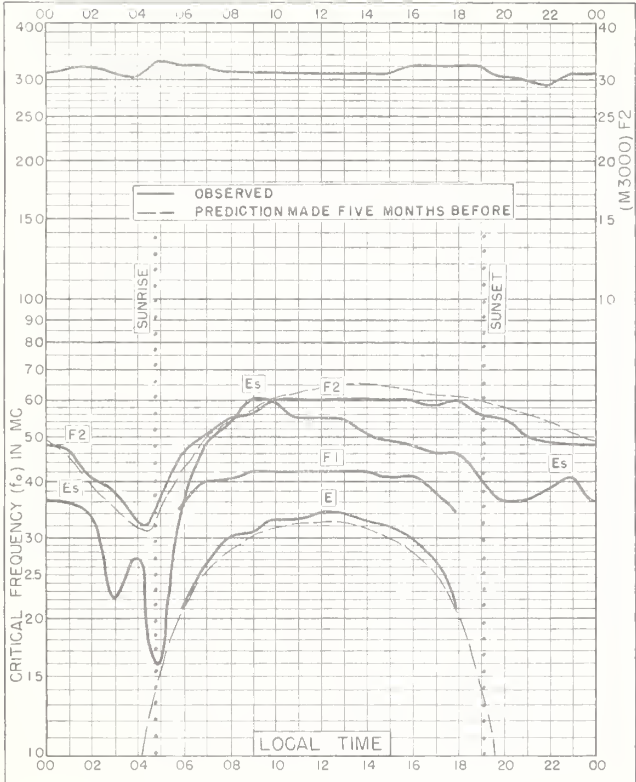


Fig. 117. CANBERRA, AUSTRALIA
35.3°S, 149.0°E DECEMBER 1954

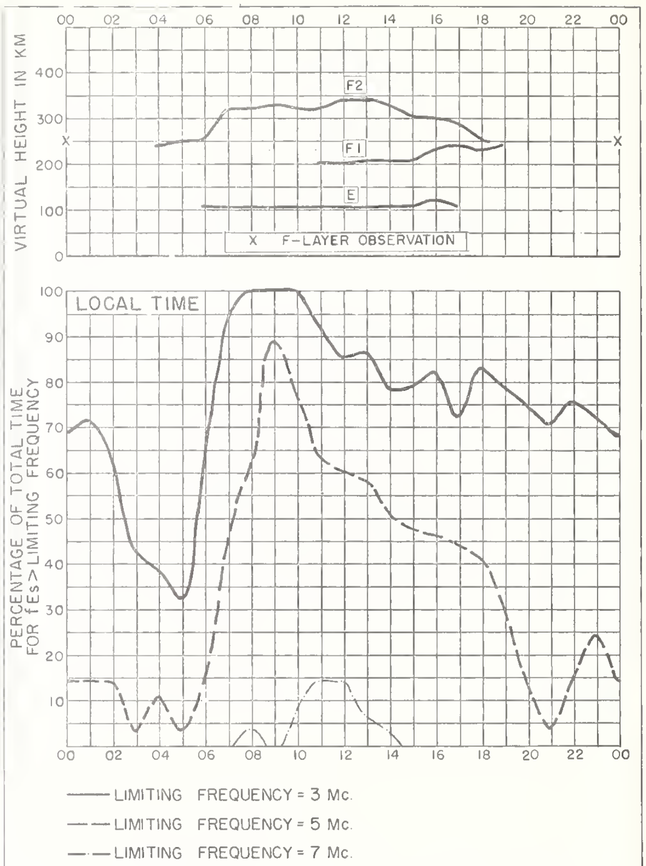


Fig. 118. CANBERRA, AUSTRALIA DECEMBER 1954

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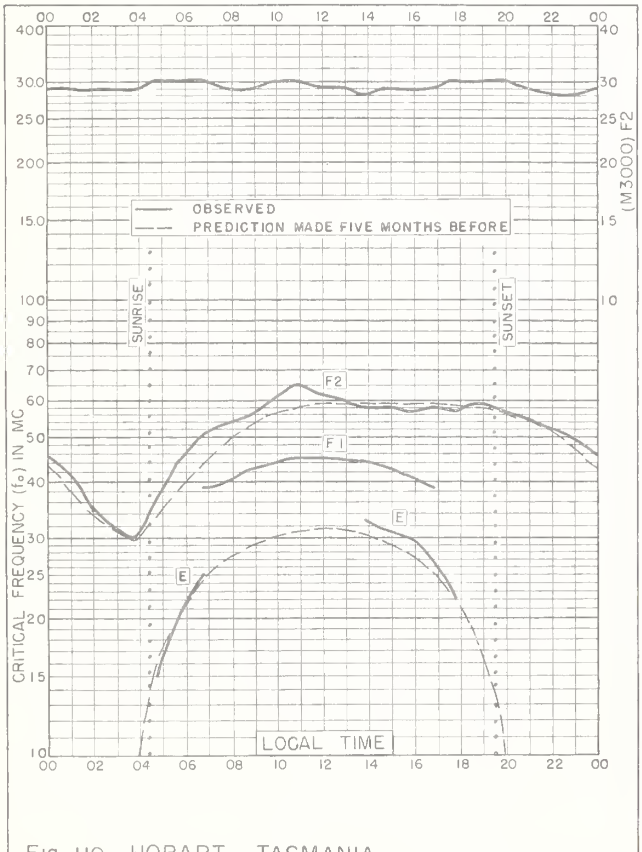

Fig. 119. HOBART, TASMANIA
42.9°S, 147.3°E DECEMBER 1954

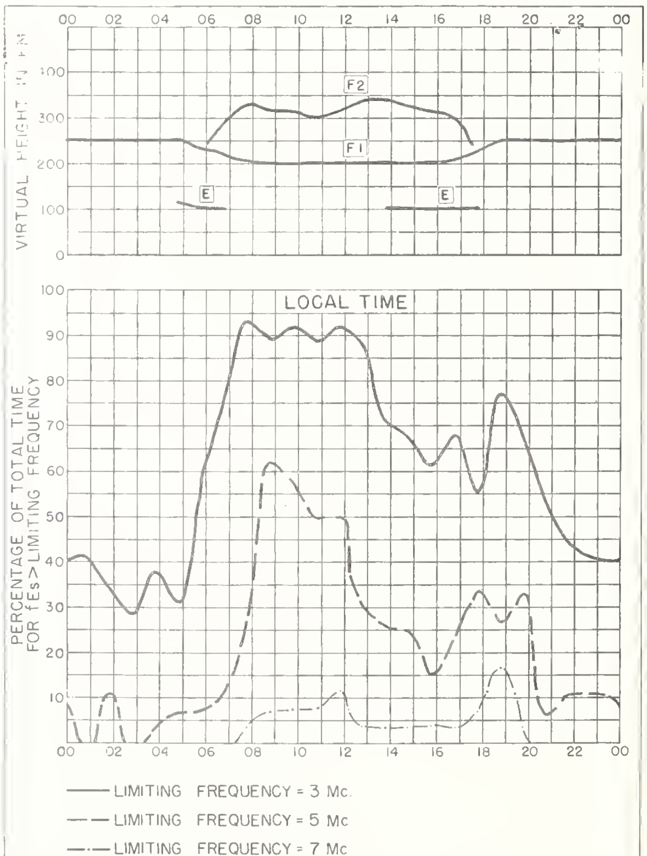

Fig. 120. HOBART, TASMANIA DECEMBER 1954

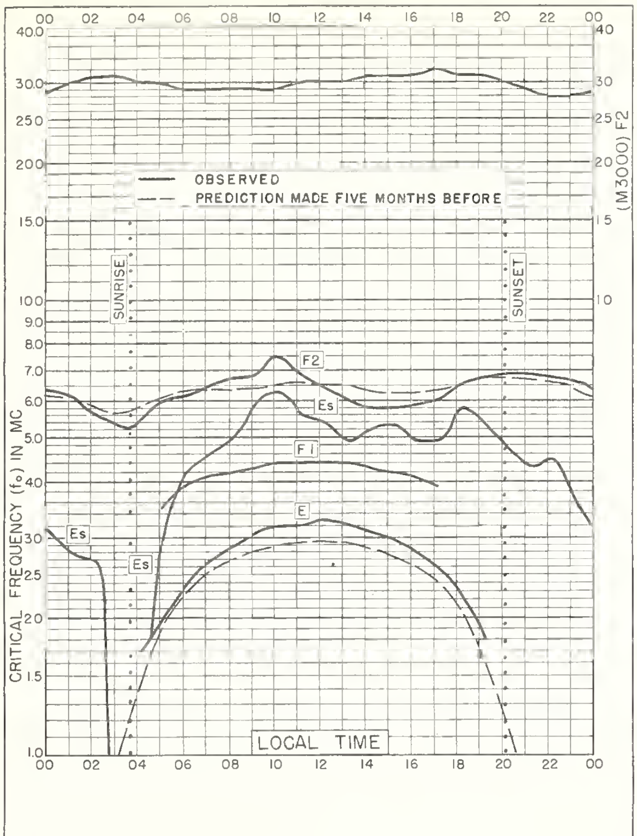

Fig. 121. FALKLAND IS. 51.7°S, 57.8°W DECEMBER 1954

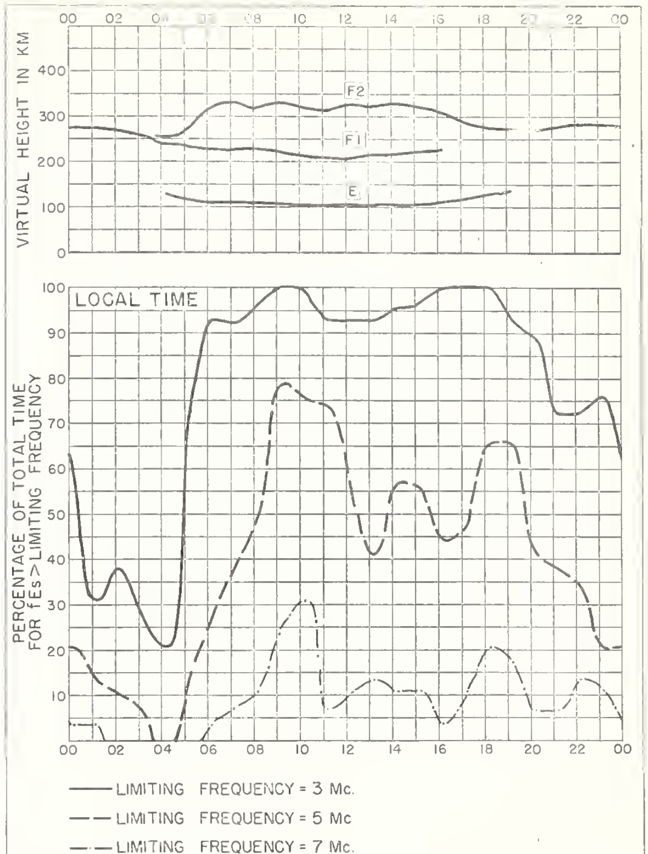

Fig. 122. FALKLAND IS. DECEMBER 1954

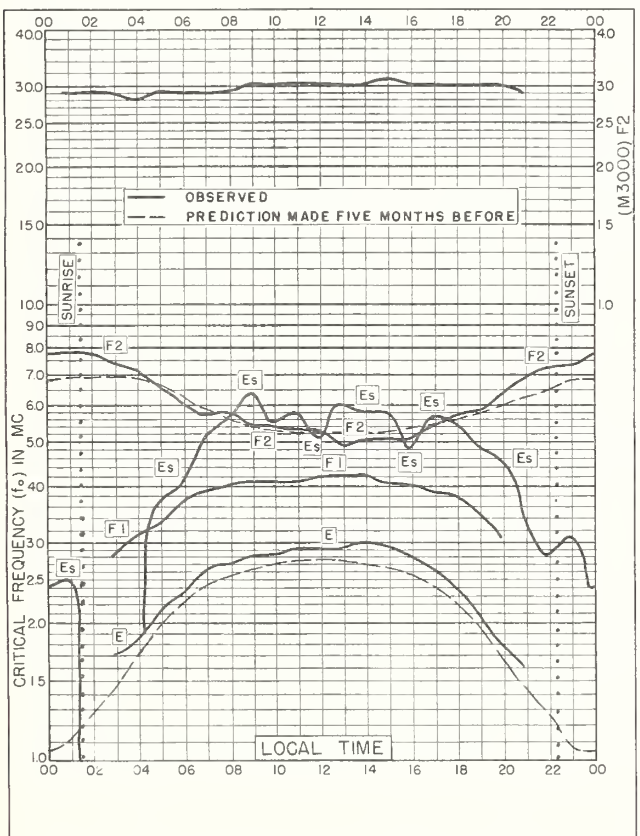

Fig. 123. PORT LOCKRY 64.8°S, 63.5°W DECEMBER 1954

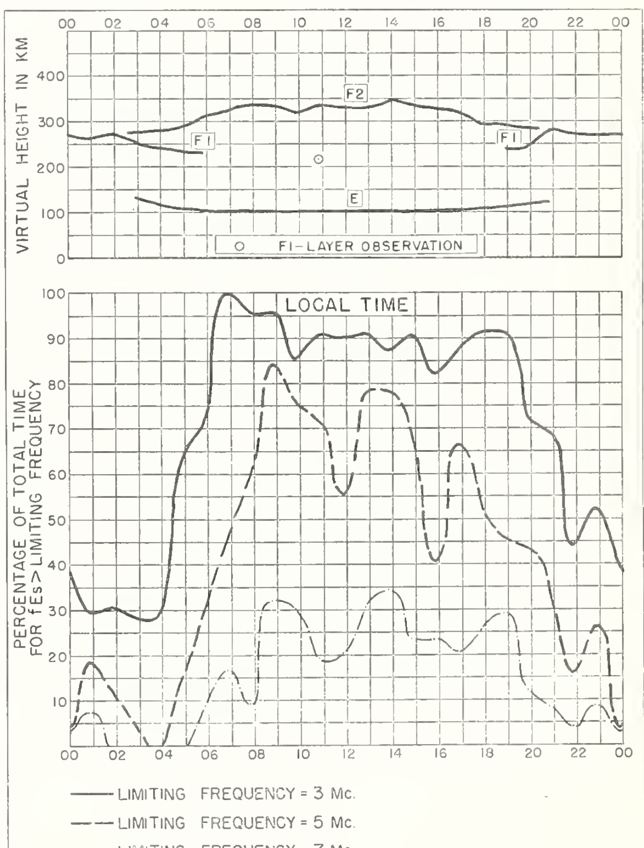

Fig. 124. PORT LOCKROY DECEMBER 1954

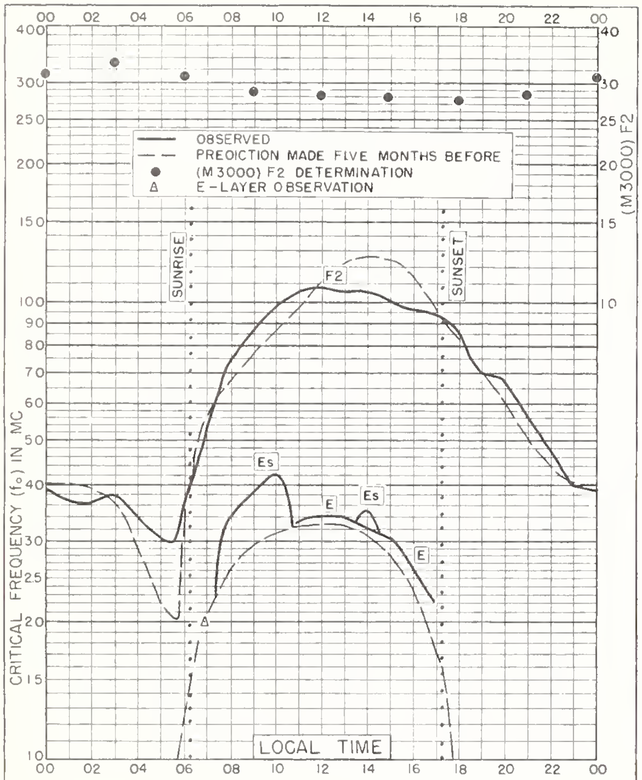

Fig. 125. CALCUTTA, INDIA
22.6°N, 88.4°E NOVEMBER 1954

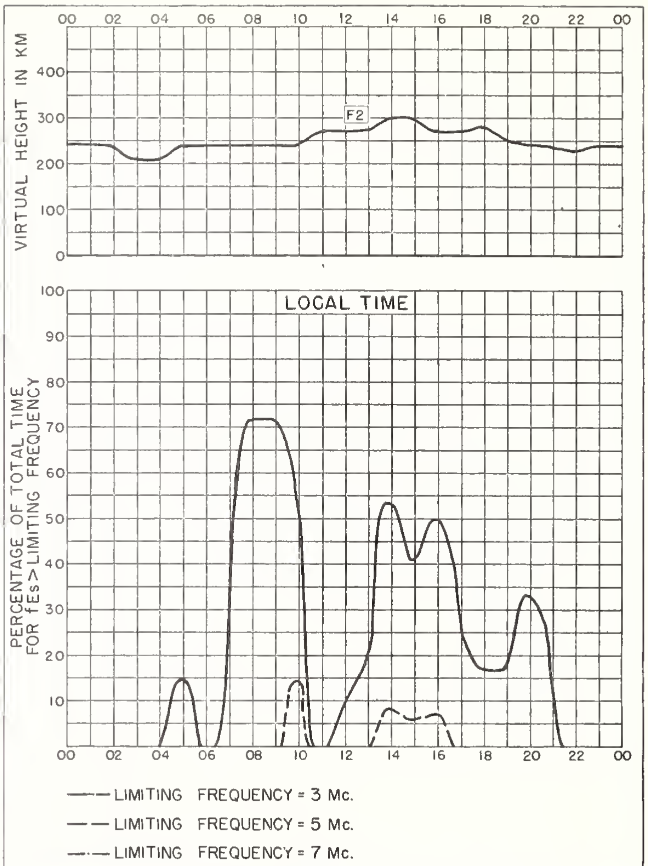

Fig. 126. CALCUTTA, INDIA NOVEMBER 1954

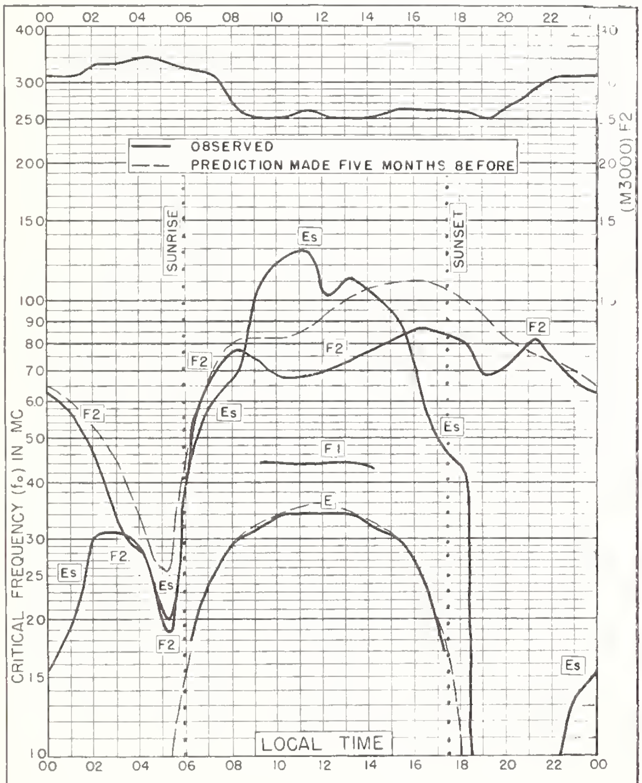

Fig. 127. IBADAN, NIGERIA
7.4°N, 4.0°E NOVEMBER 1954

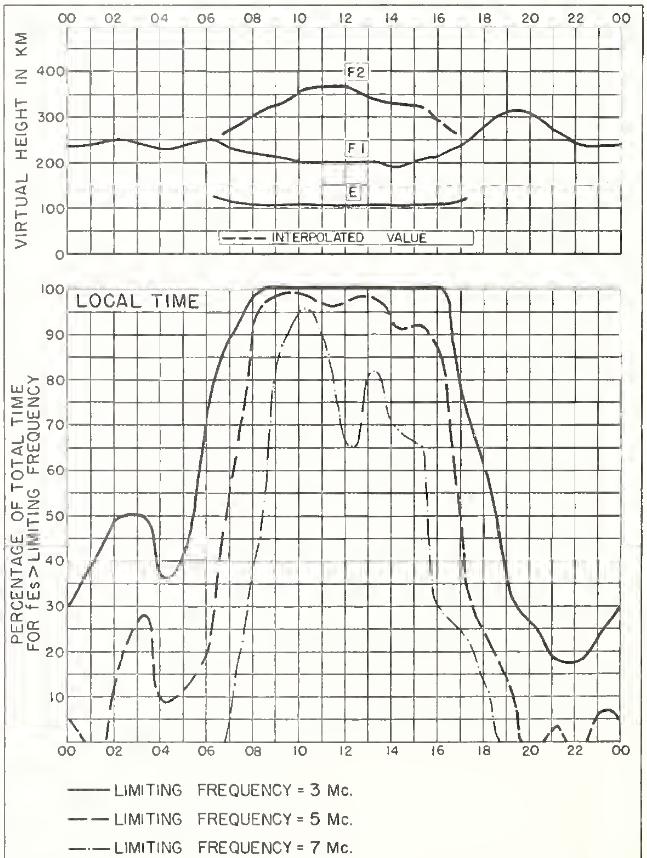

Fig. 128. IBADAN, NIGERIA NOVEMBER 1954

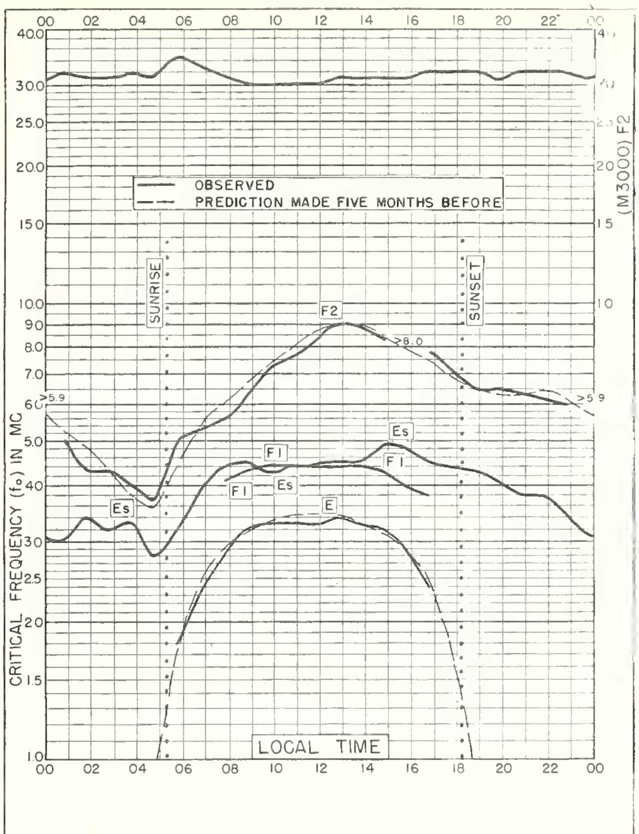

Fig. 129. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E NOVEMBER 1954

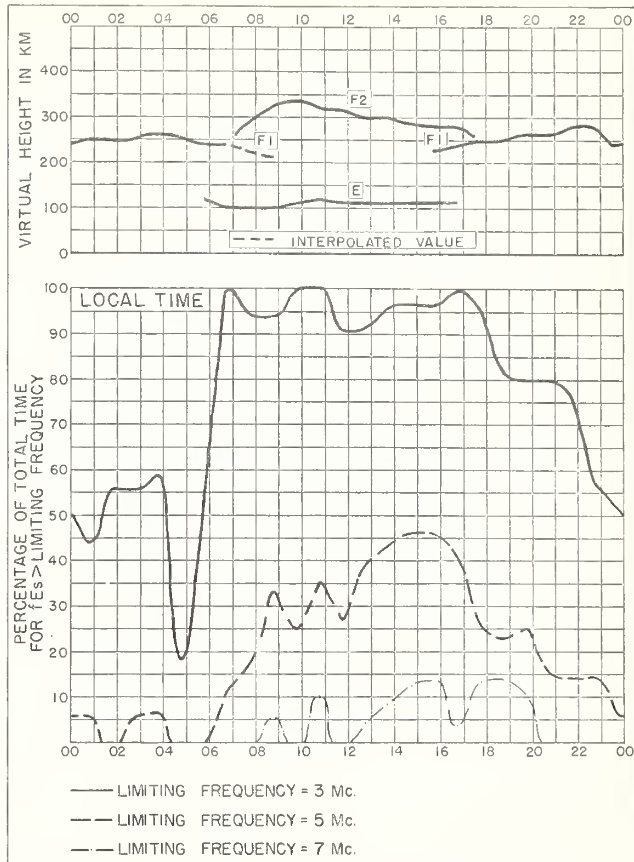

Fig. 130. TOWNSVILLE, AUSTRALIA NOVEMBER 1954

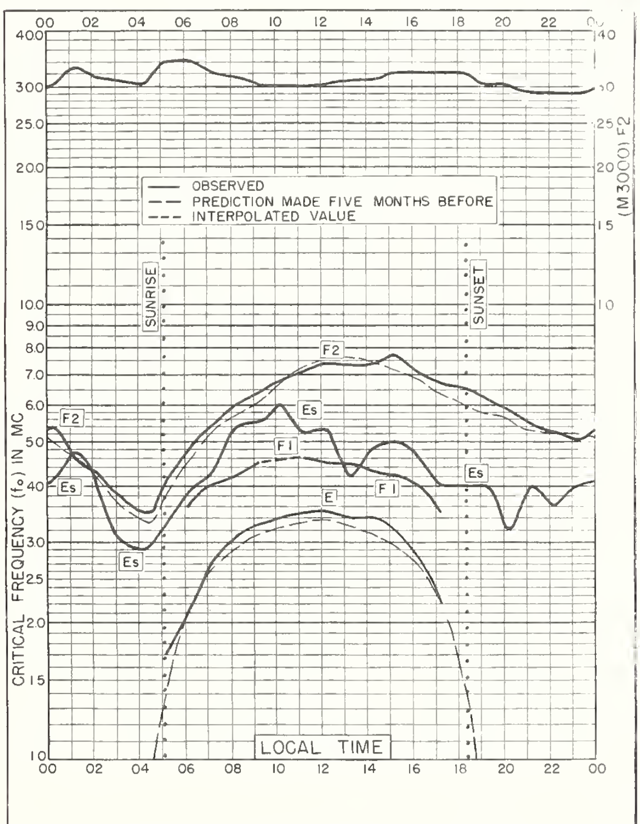

Fig. 131. BRISBANE, AUSTRALIA
27.5°S, 153.0°E NOVEMBER 1954

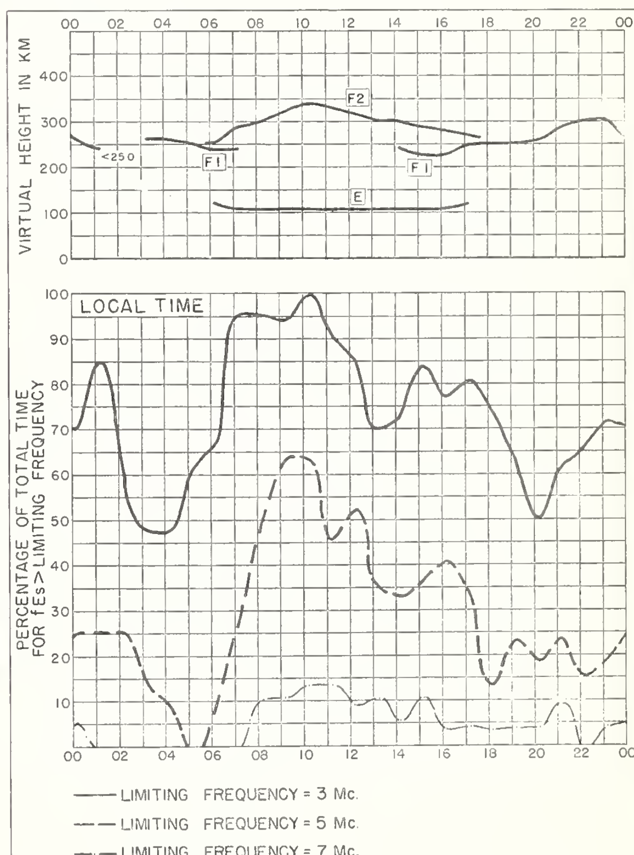

Fig. 132. BRISBANE, AUSTRALIA NOVEMBER 1954

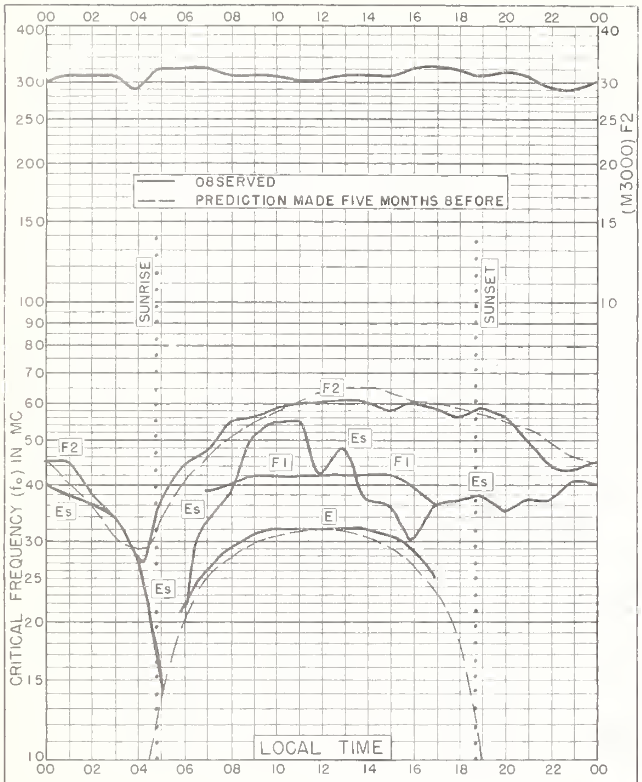

Fig. 133. CANBERRA, AUSTRALIA
35.3°S, 149.0°E NOVEMBER 1954

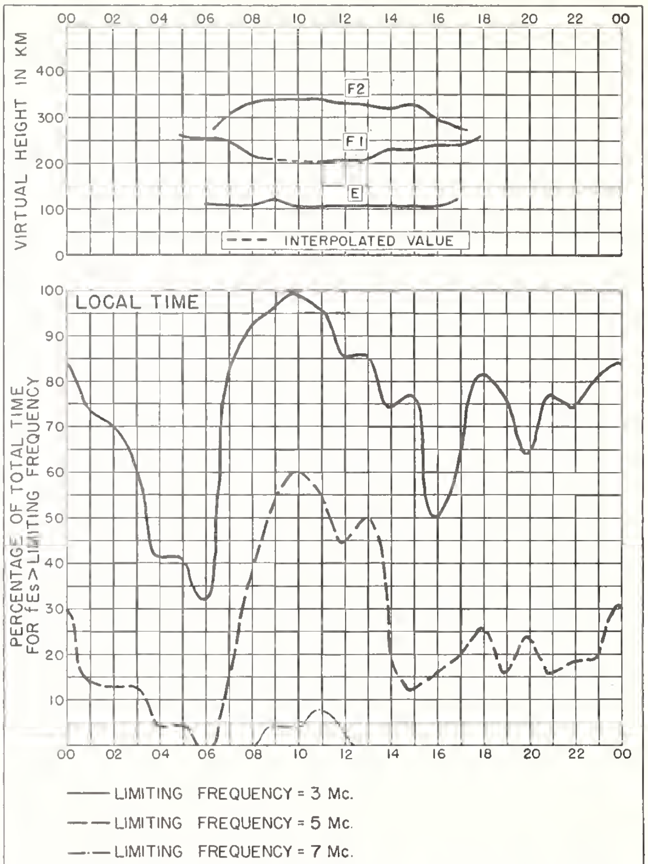

Fig. 134. CANBERRA, AUSTRALIA NOVEMBER 1954

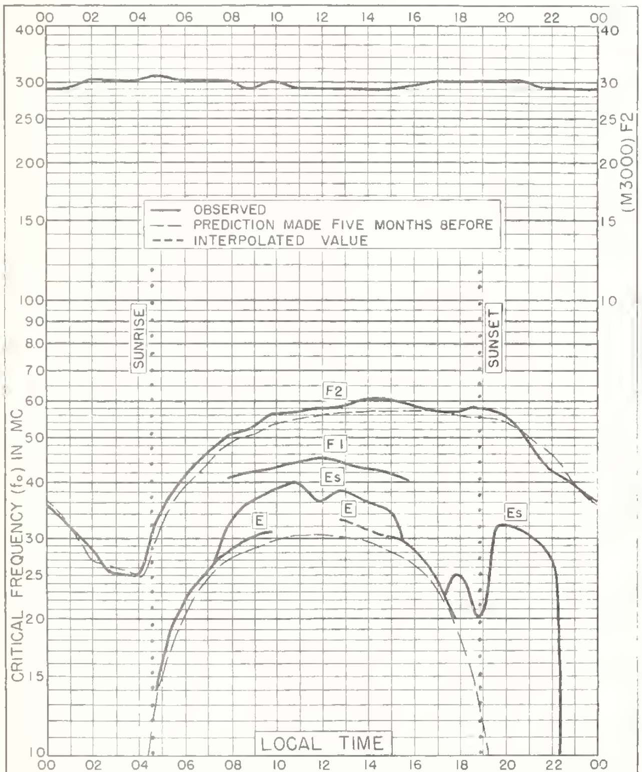

Fig. 135. HOBART, TASMANIA
42.9°S, 147.3°E NOVEMBER 1954

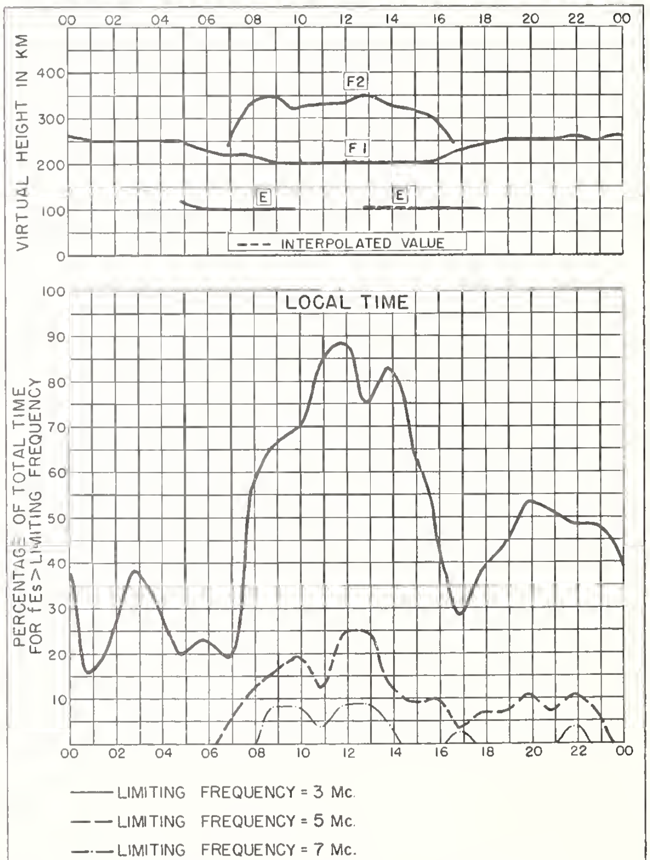

Fig. 136. HOBART, TASMANIA NOVEMBER 1954

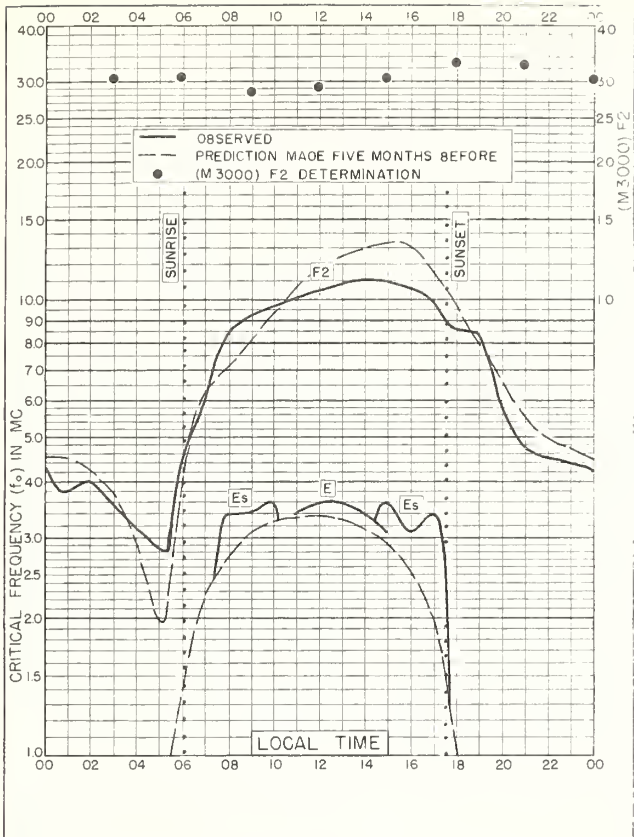

Fig. 137. CALCUTTA, INDIA
22.6°N, 88.4°E OCTOBER 1954

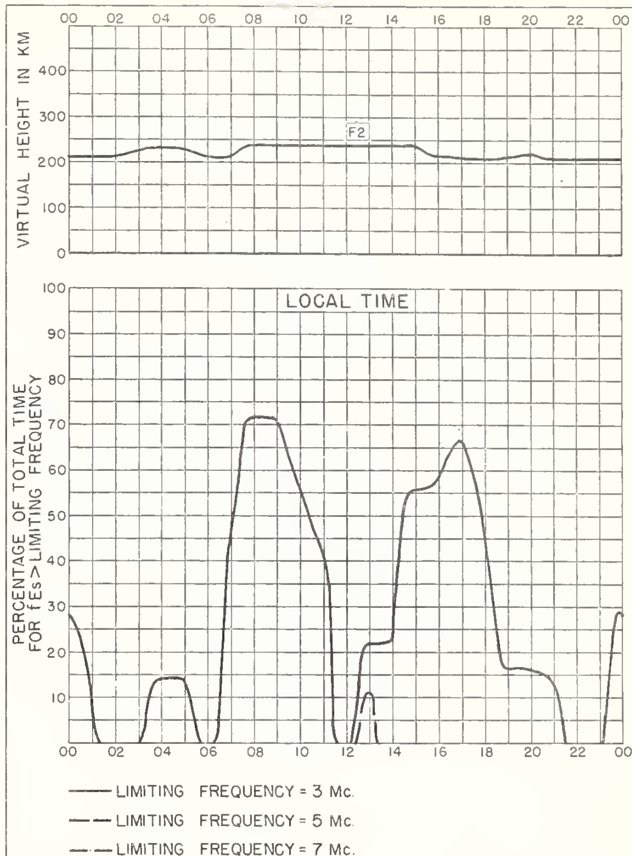

Fig. 138. CALCUTTA, INDIA OCTOBER 1954

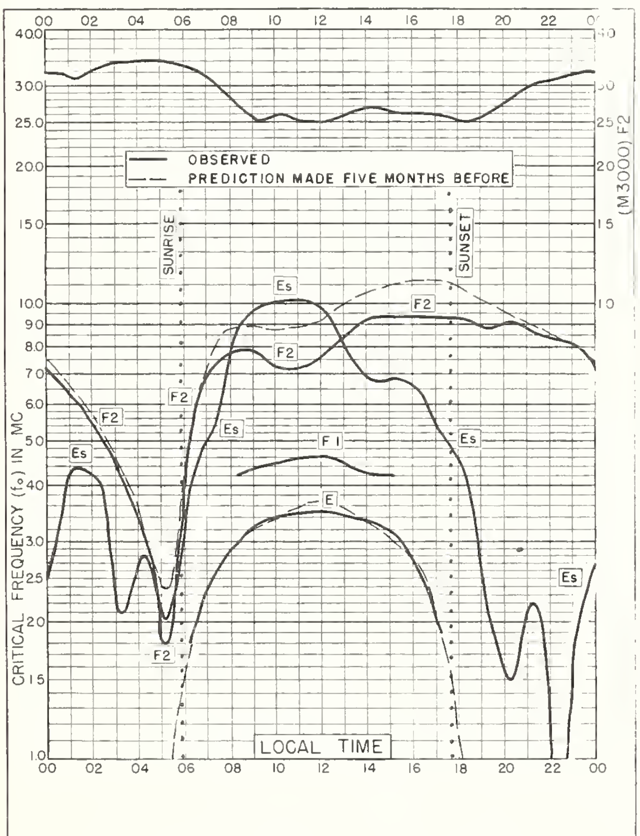

Fig. 139. IBADAN, NIGERIA
7.4° N, 4.0°E OCTOBER 1954

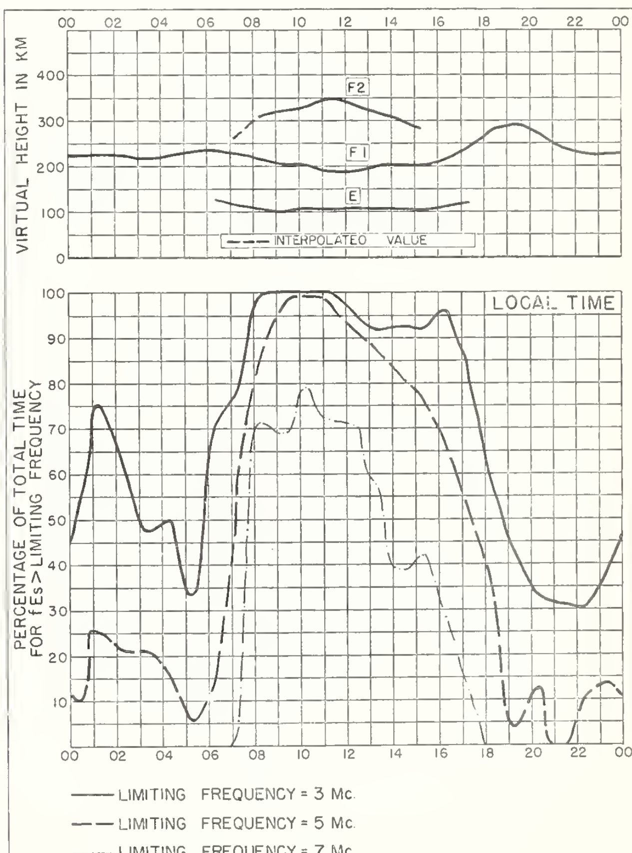

Fig. 140. IBADAN, NIGERIA OCTOBER 1954

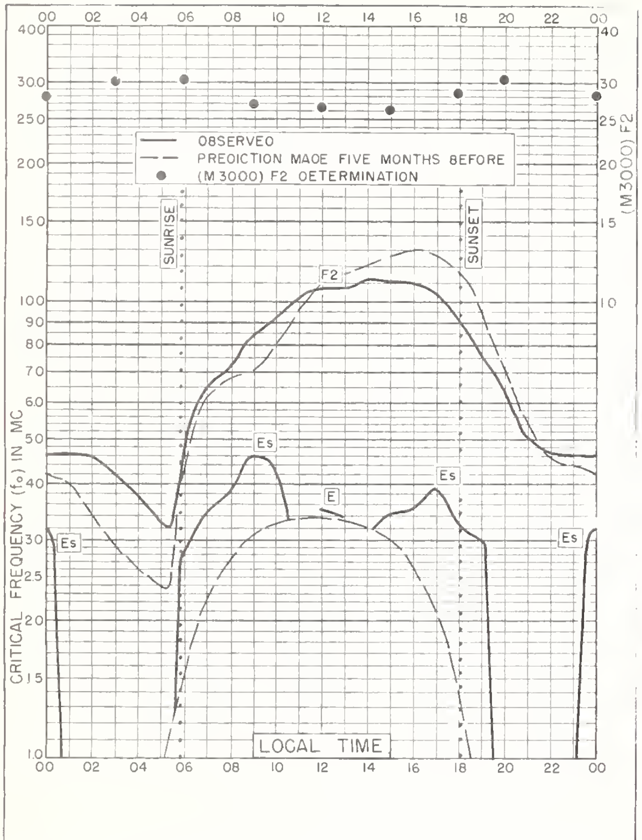

Fig. 141. CALCUTTA, INDIA
22.6°N, 88.4°E SEPTEMBER 1954

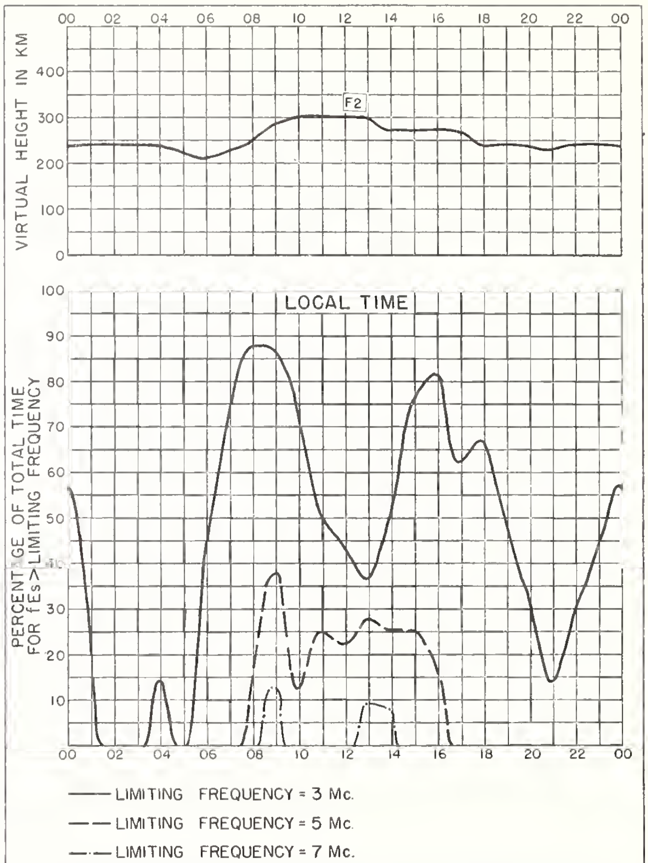

Fig. 142. CALCUTTA, INDIA SEPTEMBER 1954

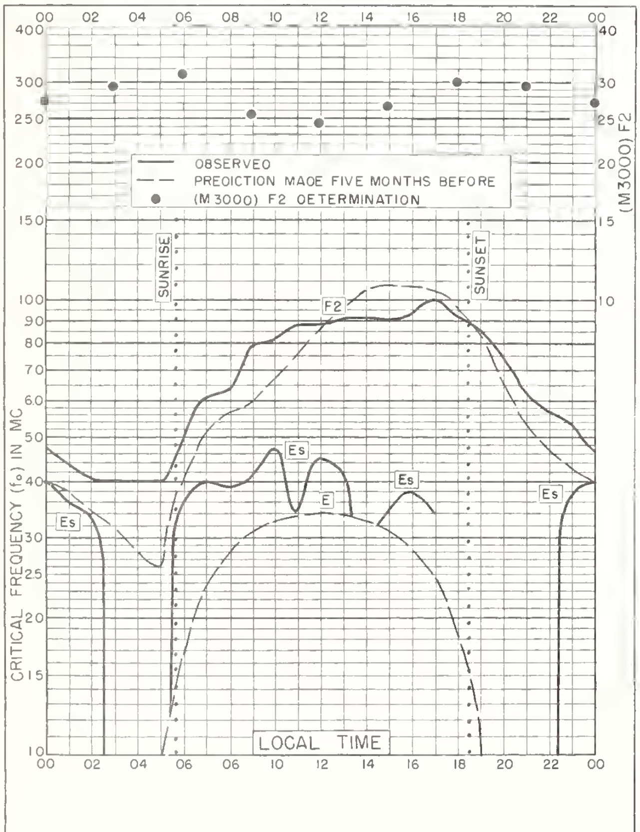

Fig. 143. CALCUTTA, INDIA
22.6°N, 88.4°E AUGUST 1954

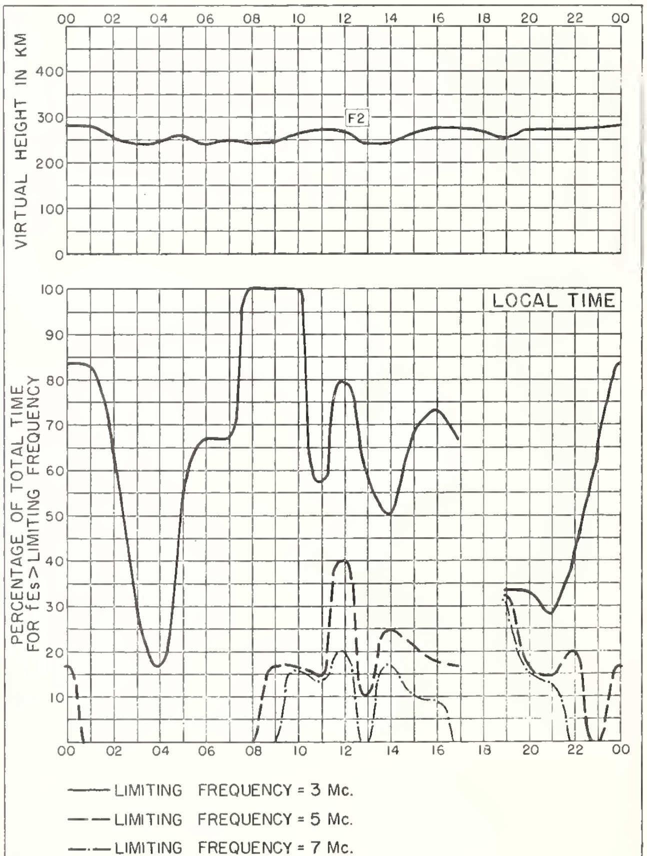

Fig. 144. CALCUTTA, INDIA AUGUST 1954

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NBS Circular 462. Ionospheric Radio Propagation.

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